ONE SHILLING

The MODEL RAILWAY NEWS

VOL. 28 No. 327 MARCH 1952

A PERCIVAL MARSHALL PUBLICATION

TRUE MODEL co

GRAHAM FARISH LOCOMOTIVES

G.W.R. Prairie	£4 9 0
B.R. Prairie	£4 4 0
"Merchant Navy"	£5 9 6
"Merchant Navy" "Golden Arrow" ...	£5 14 6
"King" Class (G.W.R.)	£5 19 6
"King" Class B.R. (Blue)	£5 19 6

Track — Points — Rolling Stock — Coaches — Station Kits

"T.T." New Items

By the time this advertisement appears we hope to have delivery of new type locomotives, petrol tank wagon, etc. Please send us your enquiries.

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TRUE MODEL CO., 211, Upper Richmond Road, Putney, S.W.15. *PUT 9509 (PUT 2884 Evenings).*

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New Year Resolutions

We know you resolved to get the best from your layout and so enjoy the maximum pleasure from your hobby.

We hope you resolved to try the vast possibilities now available with FINE SCALE TRACK and COMPONENTS. We can still supply materials for 6 ft. of FINE SCALE TRACK in NICKEL SILVER for **14/-**, or 12 ft. of FINE SCALE TRACK in STEEL for **20/-**. Post Paid.

To help you in this resolve we will continue to produce as many items as present restrictions will permit and give the best possible service.

We can deliver from stocks :—

L.M.S. and L.N.E.R. BOGIE KITS.

FINE SCALE COACH AND WAGON WHEELS IN 2- AND 3-RAIL.

MATERIAL SHORTAGE WILL NATURALLY AFFECT OUR STOCK BUT YOU WILL DO WELL TO SEND DIRECT AND TAKE ADVANTAGE OF OUR 24-HOUR SERVICE.

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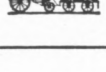

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3/8 in. x 1/8 in.	5½d.	1/2 in. x 1/4 in.	7½d.
1/2 in. x 1/8 in.	6d.	1 in. x 1/4 in.	10½d.
1 in. x 1/8 in.	7½d.	1½ in. x 1/4 in.	1/2
1½ in. x 1/8 in.	10½d.	2 in. x 1/4 in.	1/9
2 in. x 1/8 in.	1/2	3 in. x 1/4 in.	2/4½
3 in. x 1/8 in.	1/9	6 in. x 1/4 in.	4/-
6 in. x 1/8 in.	3/-	1/2 in. x 1/2 in.	10½d.

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Gauge "OO" Coach Bogies for above, **13/1½** per pair extra.

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Large Size Oiler of similar pattern. Price **8/-** each.

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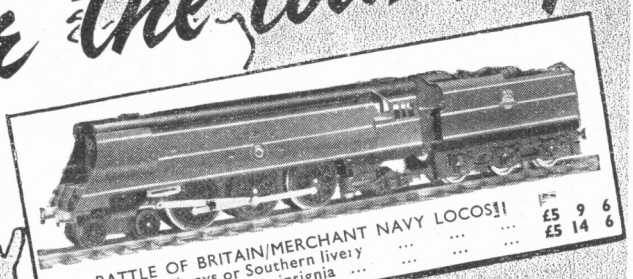
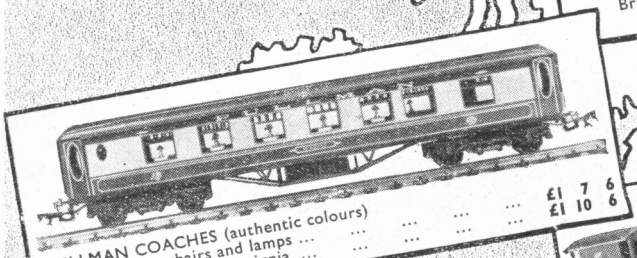
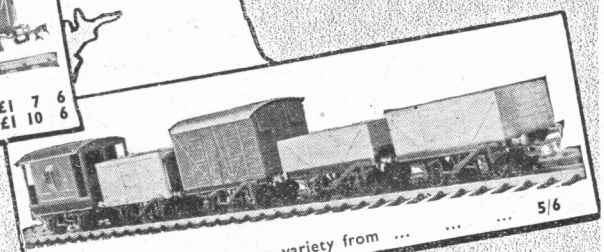


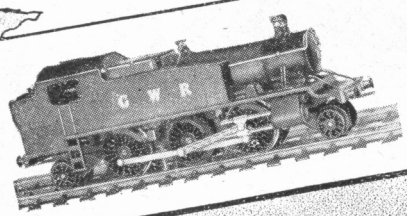
BATTLE OF BRITAIN/MERCHANT NAVY LOCOS!!
British Railways or Southern livery £5 9 6
With Golden Arrow insignia £5 14 6



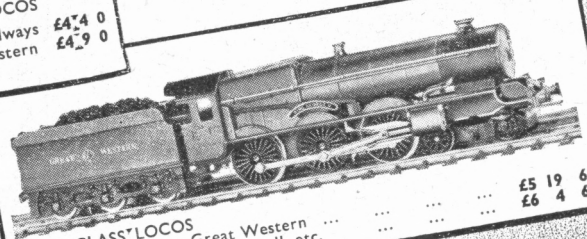
PULLMAN COACHES (authentic colours) £1 7 6
With tables, chairs and lamps £1 10 6
With Golden Arrow insignia ... ...



WAGONS & VANS—a large variety from 5/6



PRAIRIE TANKER LOCOS
British Railways £4 4 0
Great Western £4 9 0



KING CLASS LOCOS £5 19 6
British Railways or Great Western £6 4 6
King George V with lamps, bell, etc.

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OO-GAUGE

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S/H LOCOS 12 V D.C.

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L.N.W.R. 4-6-0 Claughton (Beeson)	£45 10 0
L.M.S. "Princess Royal" Mills Bros.	£15 0 0
L.M.S. "Royal Scot" B/Lowke	£3 10 0
L.M.S. 4-4-2 Tilbury Tank, T. & H.	£22 10 0
L.N.E.R. 4-6-2 "Flying Scotsman" Mills Bros.	£15 0 0
G.W.R. 2-4-0 Metro Tank	£22 10 0
G.W.R. 0-6-0 Pannier Tank	£13 0 0
L.M.S. 0-6-0 3F Standard Tank, Mills Mech.	£13 0 0
L.M.S. Stanier 2-6-0 Mixed Traffic T. & H.	£30 0 0
L.M.S. 4-6-2 "Princess Elizabeth" 20 V a.c. Hornby	£8 10 0

We have numerous other electric locos including Beesons, also steam and clockwork locos by several makers.

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GAUGE "O"	*Second-hand*	*New*
L.M.S., S.R., L.N.E.R. & G.W.R. Side Corridors and Brake-ends, and non-corridor	£2 7 6	£2 15 0	£3 13 4
L.M.S. & G.W. Dining Cars	£2 15 0	£3 5 0	£4 11 8
L.M.S., G.W.R., all brakes or parcels	£2 7 6	£2 15 0	£3 13 4

GAUGE "OO"	
Exley Bodies	36/8 & 44/7
Hambling Coaches Complete	33/7

LINESIDE ACCESSORIES	**"OO"**	**"O"**
Sheet of L.M.R. or S.R. Station Signs	7d.	—
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Diecast Station Staff	2/6	3/4
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The G.W.R. (an appreciation) (Nock)	18/-
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New "OO" or "O" Parts and Model Lists, 6d. each

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FULLY COMPLETE WITH OVERLOAD WARNING LAMP, SPEED CONTROL, FORWARD/REVERSE. 12 V. D.C.

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"O" DC/1 "OO"
AS MINOR UNIT BUT LARGE OUTPUT. 12 V. D.C. at 1½ Amps.

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A SUPERB INSTRUMENT FOR THOSE WHO REQUIRE A LARGE OUTPUT
0-6-8-10-12 volt at 5 Amps D.C., 0-4 volt A.C. for Lighting, etc.
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OTHER MODELS, SPLIT POTENTIAL, ETC.
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TUES., APRIL 15th to SAT., APRIL 19th

The work of members of the Model Railway Club, over 3,000 models of locomotives, coaches, wagons, signals and working tracks. Free rides behind real steam engines.

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Tuesday, 2 p.m. to 9 p.m.
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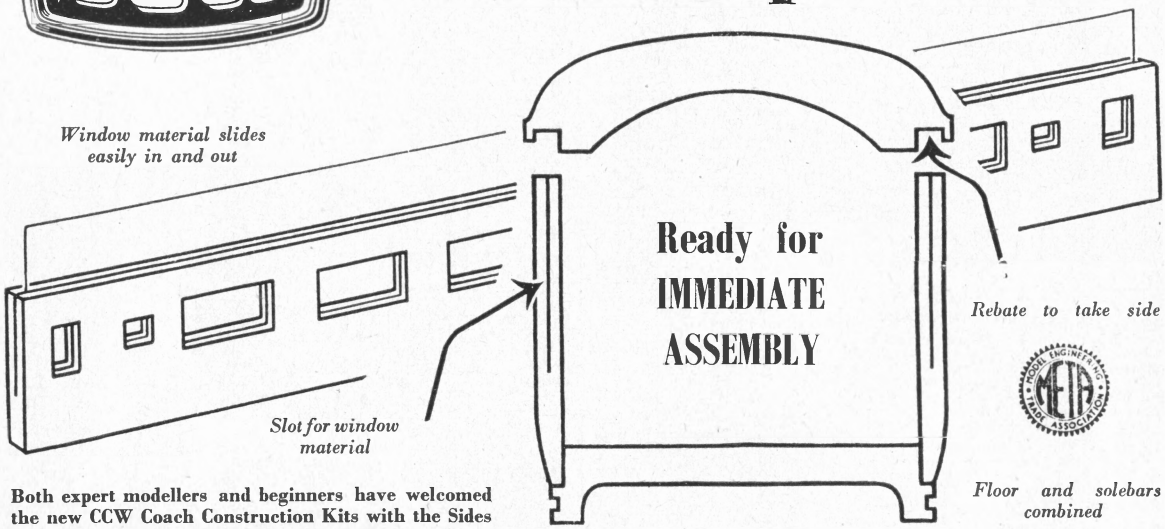

Both expert modellers and beginners have welcomed the new CCW Coach Construction Kits with the Sides already made up and the roof and floor units cut precisely to correct length, to Skinley blueprint.

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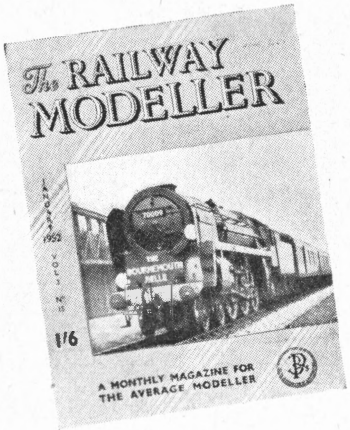

The *Railway Modeller*—a Magazine for the Average Modeller—has been completely revised and now appears in an enlarged, improved form—still at the old price. It is the newest, brightest, breeziest magazine catering for the small scale enthusiast—not forgetting the Proprietary Systems. Each edition contains 24 pages, apart from advertising, packed full of constructive articles providing you with valuable information on the activities of the hobby.

No serious modeller should be without this Magazine, produced, prepared and edited by specialists in the art. Obtainable from PECO Stockists everywhere.

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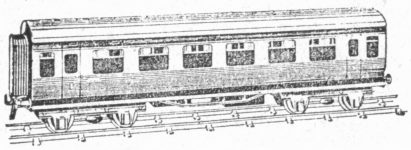

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We have a wide range of "OO" locomotives, both new and second-hand. In addition we stock hand-built engines, models of old and present-day types, which are not easily obtainable. We feel sure you will find something of interest, and invite you to pay us a visit. Repairs and modifications are done by experts at most reasonable prices. We are also interested in buying "OO" equipment at generous prices provided it is in good condition. Please write to us if you are too far away to call. Orders by post should include cost of postage.

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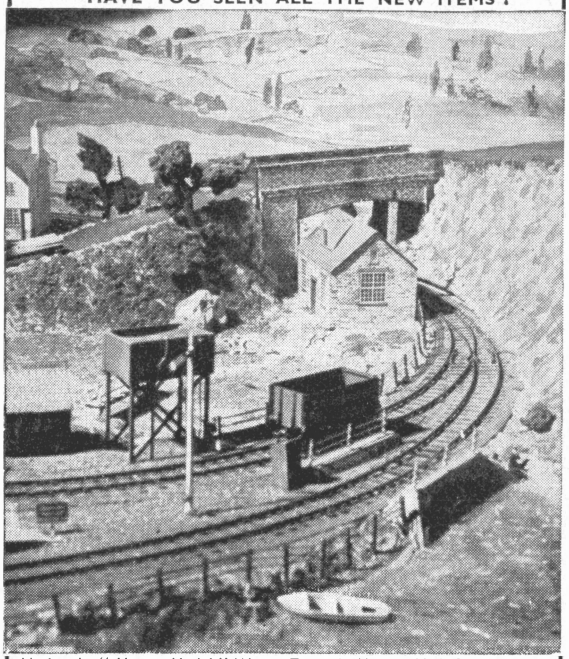

Notice the " Master Model " Water Tower in Messrs. H. A. Blunt & Sons " OO " Railway Layout, who is a stockist of Master Models.

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L.S.A. Lamp and Advertisement	1/10
BS1 Buffer Stop with Buffers	2/-
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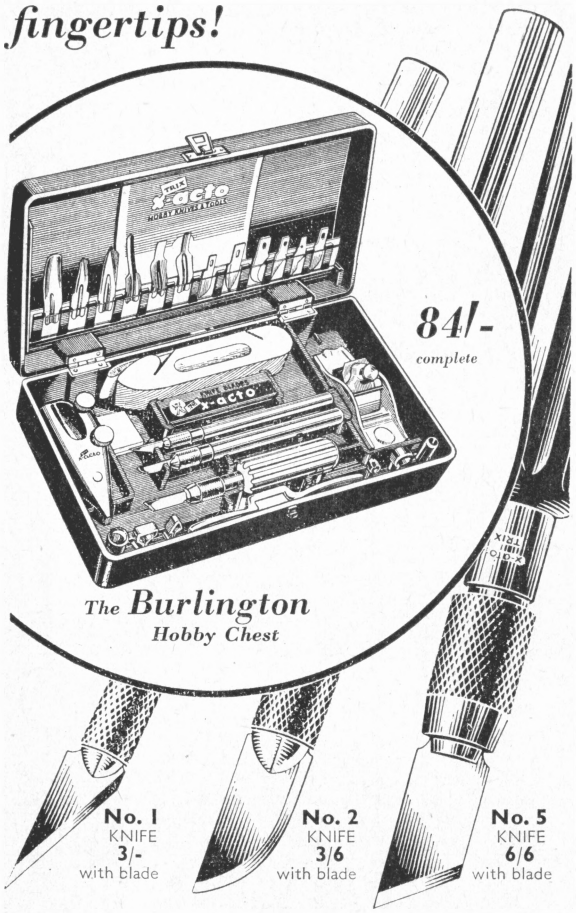

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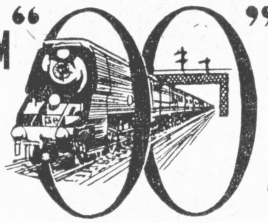

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The MODEL RAILWAY NEWS

Vol. 28 No. 327 March, 1952

Editorial Offices :
23, Great Queen Street, London, W.C.2.

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Notes of the Month

THE passing of King George VI on February 6th removed from amongst us a monarch who, perhaps more than any other, interested himself in the hobbies and pursuits of his people. He possessed a sound technical knowledge, and he is known to have been fascinated by model railways; his several visits to the Romney Hythe and Dymchurch Railway and his keen enjoyment of driving the locomotives on that line showed that he had more than a mere acquaintance with the practical side of miniature railway engineering. He also had the full-size railways very much at heart, as railwaymen in most parts of Britain can testify. He was no stranger to the locomotive footplate, and no doubt this first-hand experience served to arouse his sympathy for and understanding of our hobby.

We are not aware that the late King ever possessed a model railway of his own, but we believe that, at one time, he was in the habit of visiting one owned by the late Marquis of Milford Haven. His late Majesty will be remembered by each of us in various ways, but we like to think of him and to remember him as the most railway-minded King that Britain ever had.

Our Cover Picture

Mr. N. F. Dyckhoff, of Manchester, is the photographer who supplied the original of this month's cover picture. It shows a Robinson 2-4-2 tank engine, No. 67420, on a push-and-pull train at Chesham, about to leave for Chalfont and Latimer. The engine was originally one of 40, built in 1903, for the old Great Central Railway, and later became L.N.E.R. Class C13.

Another Stolen Model

We regret to learn of another theft from an exhibition; this time it occurred at the exhibition held on January 12th by the Bristol Railway Circle. Mr. J. F. Burrell, the Circle's hon. secretary, reports that the model is a G.W.R. 6-wheeled " Siphon " milk-van for " OO "-gauge; its number is 967, and it has a white roof, chocolate-coloured body and a black chassis. If any reader should see this model offered for sale, or on exhibition anywhere, he should report immediately to Mr. Burrell, 80, Longmead Avenue, Bristol, 7.

Timetable Working

The first half of a rather unusual article appears in this issue under the above title and we are particularly pleased to publish it because it is one of those " universal " subjects which can appeal equally to the " tinplate " man or the " fine-scale " man—to the enthusiast who uses one of the proprietary systems or the fellow who builds everything himself down to the last rivet.

The author warns us at the beginning that the " Westport Section " contained some very unorthodox ideas, but we find them refreshing because of their controversial nature. Having personally experienced the complete fascination which the correct timetable working of a model railway brings, we hope readers will find " Pandora's " story interesting. You can start running to time on page 46.

The Model Railway Exhibition

We take this opportunity of reminding readers that Easter is later this year than it was last, but to all model railway enthusiasts it is a time of year that is always looked forward to with keen anticipation and pleasure. For, to them, it means the Model Railway Exhibition at the Central Hall, Westminster, London, S.W.1, and that is, to many, the most important function in the model railway calendar. This year, the dates will be : Tuesday to Saturday, April 15th to 19th; we advise all readers to make a special note of this and to visit the exhibition on at least one day while it is open. It covers the whole scope of our hobby, displays all that is latest and best in the trade and always contains plenty to interest and instruct its visitors, no matter whether they are the newest of novices or the oldest of experts.

Railways Offer Free Film Shows

Over 170,000 people, more than ever before, saw films giving previews of holiday resorts, peeps behind the scenes in railway workshops, and British industries at 1,450 shows given by British Railways (London Midland Region) during 1951.

London Midland's comprehensive library of films, many of them in colour, are lent, with an operator and projector if required, without charge for a two- or three-hour show to clubs, schools, and social bodies.

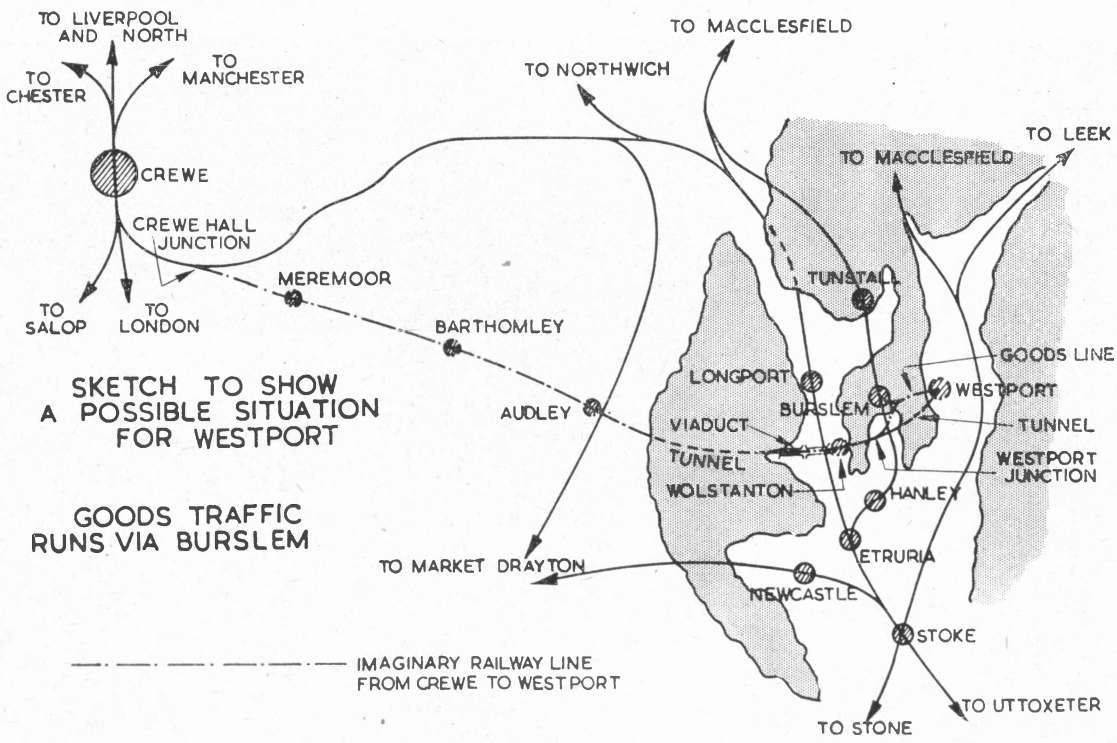
TIMETABLE WORKING

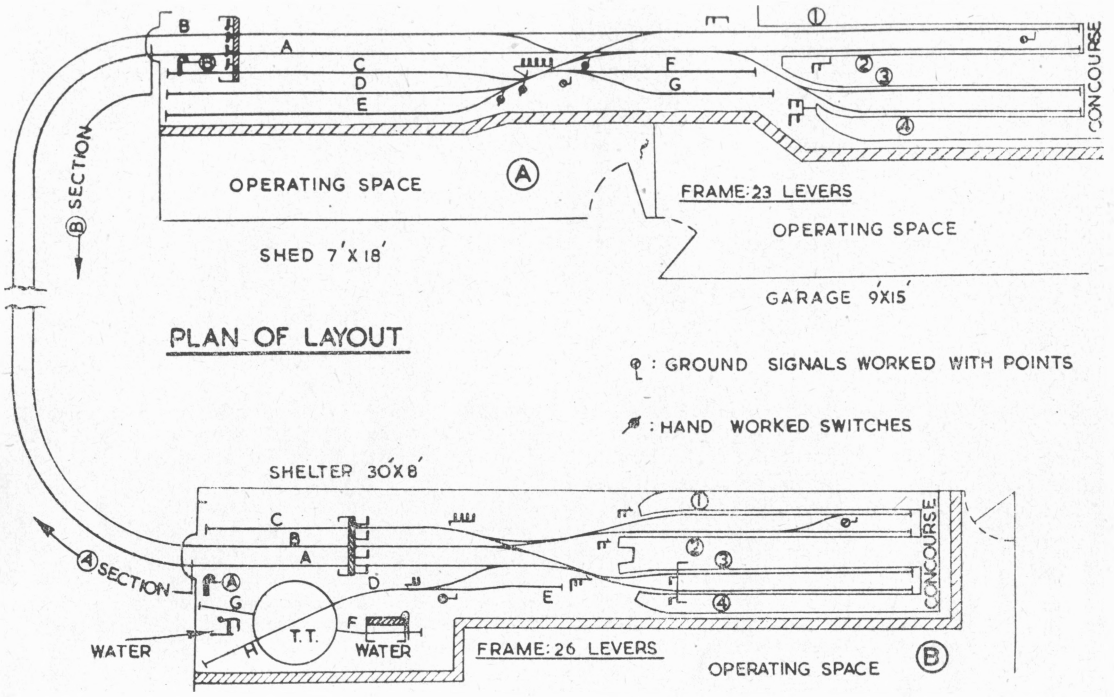
by "Pandora"

I SHOULD like to describe a system of operating a model railway which has developed after many years of experiment, and which, I feel, produces an effect more nearly like the real thing than any I have so far witnessed, using as an illustration my last railway—the Westport section of the late L.M.S.R.

Now, many people fail to achieve a realistic effect with their time table, mainly because they are always changing plans, and because they try to reproduce too much in the small space available. When one bears in mind that it requires about 117 ft. to reproduce a scale mile in 7 mm., it is obvious that any attempt at realistic distances between stations on a main line is out of the question. For this reason I have always preferred a non-continuous line, concentrating all my scenic effects at the terminals and being content to "forget" the intervening track, save only to ensure that it provides safe and trouble-free running. In fact, I am all for covering the lot up and connecting the two terminals with a long tunnel! But that's just a personal taste! The obvious objection here is, of course, that one cannot operate the line alone; but later, I will mention a useful single station design which easily overcomes this trouble. Further, I think that operating with an assistant is far better, as it opens up the possibilities of block working—after all, one can't very well "offer" a train to oneself! Another important point is to fix the geography of the line properly, arranging for a physical connection with the main line of your own particular choice somewhere in imagination (or "off the map," shall we say), and in this way basing the time table on real bits of *Bradshaw*! I am a great believer in freelancing, as unless a section like Holywell Town to Holywell Junction is enough to satisfy—and even that fully scaled down, would be quite a model!—scale representation in a house or average garden of an existing branch is impossible.

Now, I warn you, the Westport Section contained some very unorthodox ideas, but I put them forward for what they are worth, and even without them the system still holds good. Westport was a place in the Potteries of some 13,000 inhabitants, about fifteen miles from Crewe, the branch first joining up





with the Stoke line before entering this junction. A fast train, therefore, took 20 minutes to run in from Crewe, and a " stopper " 40 min., there being three intermediate stations, all, of course, imaginary. This is important when one considers the real time-table, with which most of the Westport trains connected. The operation concerned itself almost entirely with passenger services—freight trains would, it was believed, run into a separate depot in another part of the town joining our line at some point near the first station out of Westport, and at this junction would be situated the locomotive sheds, no such building being incorporated in the actual model.

So much for the geography. The two terminals were both called Westport and were both supposed to be the same place ! This greatly simplified the compiling of the time table, as any difficulties encountered in making the departures and arrivals synchronise were easily swept aside. Further, it assisted one operator to divorce himself from the other—a very necessary thing, since the whole aim of the system was to impress upon both operator and onlooker that, when a train leaves the terminus and disappears from view, it is not simply going to the " other end," but away out to Crewe with its through coaches for who knows where !—the other terminus just doesn't exist ! A similar idea could be used for freight depots, but I used what little goods stock I had for either tacking on the back of passenger trains, in odd vans, or making up parcel and fish specials. Of course, there was a PW train, kept made up which had a habit of being run at the most inconvenient times, usually at the request of " control," as I shall explain later.

From the plan it will be seen that both stations and their precincts are under cover, and the connecting line has only a short length exposed to the elements—this section caused many an hour's hard work polishing the brass rails to maintain a good electrical contact before each " session," and it took a train about 1½ min. to traverse the entire line. My stock list is included, and I arranged all non-corridor coaches in sets and kept corridor vehicles as single units. Each unit or set, as well as the locomotives, was given a special working number painted on the ends in accordance with L.M.S. practice, the locomotive numbers appearing in place of shed numbers, at the base of the smoke-box door.

Both terminals were fully signalled to cover all the required movements, the signals being manual semaphores of ex-L.N.W. pattern. The points were operated by rodding from the frames; interlocking was, I regret to say, omitted. I further arranged that the advance starter was pulled off by means of a solenoid from " the other end " and this provides the " departure side " with many an operating headache when an outward train was kept waiting for a road. Two simple electric block instruments of the three position type were used together with ordinary household bells doctored to give " one ring per push." A " bell " telephone was also installed. Electrically, the running roads were controlled by the " arrival " operator from a point just in advance of his colleague's advance

starting signal, as shown in the plan, and it was easy to observe the approach of a train by the movement of the ammeter on the switch board. I found that it was all I could do to cope with the block and an incoming train, hence there were no other locomotives moving when a train was approaching. Another point worth noting was the fact that the only turntable was situated at one end and most of the stock sidings at the other. This made for more activity between the operators and " pepped " up the interest generally. Using a simplified version of an old copy of " Regulations for Train Signalling by Block Telegraph on Double Lines of Railway," the way we worked was this:—

Imagine yourself, standing behind the operator in the garage (that's the end without the turntables) we'll call him " A." It is 9.50 a.m. (Westport time) and in platform 1 is a four-car corridor train boasting " Westport-Crewe-London (Euston) " headboards, due to depart at 10.0 a.m., and a three-car non-corridor set with a 2-4-2 tank (L. & Y.) attached in platform 2. Examination of the public time table shows us that this is the 10.10 a.m. all stations to Crewe. Apart from this both arrivals are bare and various units of stock plus another locomotive are seemingly dotted about the estate in haphazard fashion, but in point of fact they are in their allotted positions as laid down in the working time table and their movements up to and after this particular time form part of the vast jig-saw that makes up the " Railway Day." In other words, at 10.0 a.m. on any day (except Sunday) the terminus should look precisely as it does now ! " Ting " goes the bell—" call attention." " A " acknowledges it by repetition; two—pause—three rings. " A " repeats this to show that the line is indeed clear for a light engine, and he places his inward block instrument to " line clear," the one at the other end faithfully repeating this indication. A glance at his working time table shows that this must be the engine for the London train and, unless he has previously received information to the contrary, he sets the road for platform 1 and pulls off the signals in this order: Platform, inner home, outer home (the latter in this case being, as I mentioned, the advance starter of the box in the rear). Two consecutive beats tell us that the locomotive is on its way, and " A " changes his instrument to " Train on Line," and advances his controller to about half speed in a reverse direction, since all light engines are presumed to be travelling tender first unless previous verbal instructions have been sent by the telephone. As soon as the ammeter shows that the locomotive is under his control, " A " increases its speed and throws " on " the outer home signal. The train engine duly appears under perfect control from the tunnel mouth and is slowly backed on to the London train. Signals are placed at danger, two—pause—one sent to the box in rear and the block returned to " Normal."

It is now five minutes to " train time " for the 10.0 a.m. The locomotive is coupled up, and a red lamp removed from its forward end and placed on the rear of the departure. This lamping of

THE ROLLING STOCK OF THE LATE WESTPORT BRANCH

Item	Manufacture	No. in working Time Table
Locos :		
L.N.W. " Prince of Wales "	Private	L.5
L.M.S. Class " 2P "	Converted " Hornby "	L.6
L.N.W. " George V "	Private	L.7
Ditto	Converted " Lowke "	L.8
L.N.W. " Precursor "	Private	L.9
L.N.W. 4-6-2T	Private	L.10
L. & Y. 2-4-2T	Private	L.11
L.N.W. 0-6-2T	Private	L.12
Corridor Stock :		
Brake End 3rd	Exley	E.17
Side corr. compo.	Ditto	E.18
Brake End 1st	Ditto	E.19
Clerestory 3rd	Private	E.20
Brake End 3rd	L.M.C. " litho "	E.21
Side corr. compo.	L.M.C. "	E.22
Brake End 3rd	L.M.C. "	E.23
Centre corr. 3rd	L.M.C. "	E.24
Full brake	Converted L.M.C.	V.1
Siphon " G "	L.M.C.	V.2
Non-corridor stock :		
3 car set brake ends	L.M.C.	Inter Dist. set No. 13
Ditto	Lithograph	No. 14 Lavatory set.
Ditto	stock,	No. 15 Strengthening set.
Full brake	converted	V.3
Full brake	from	V.4
Plain bogie van	above	V.5
4 wheeler L.N.E. fish	" Leeds " Model	Not shown in Working Time Table.
Ditto, L.M.S.	Bakelite	
Ditto, open " piped "	Private	
G.W. siphon	Ditto	
6-wheeled Milk Tank		

The Ballast and P. Way Train consisted of:—

L.N.W. 6-wheel brake
Bogie well wagon
6-wheel " Stove "
2 short " Mills " bolsters
2 " Mills " open wagons
Midland type 6-wheel brake

SECTION OF PUBLIC TIME TABLE FOR "A"

TRAINS TO WESTPORT

AFTERNOON TRAINS (W)							
Penzance				Dep.	—		—
Plymouth				Dep.	—		—
Bristol				Dep.	—		—
Shrewsbury				Dep.	—		—
Holyhead				Dep.	—		—
Bangor				Dep.	—		—
					a.m.		
Llandudno				Dep.	10.20		—
RHYL				Dep.	11.5		—
CHESTER				Dep.	12.0		—
MANCHESTER (L. Rd.)				Dep.		Noon	—
LIVERPOOL (L. St.)				Dep.		12.0	—
Edinburgh (P. St.)				Dep.			—
Glasgow (Cent.)				Dep.			—
Carlisle				Dep.			—
LONDON (Euston)				Dep.			—
Rugby				Dep.			—
Stafford				Dep.			—
CREWE				Arr.	12.35	1.0	p.m.
CREWE				Dep.	12.40	1.10	1.15
Meremoor				Dep.			—
Barthomley				Dep.			1.20
Audley				Dep.			1.25
Wolstanton				Dep.			1.40
WESTPORT				Arr.	1.0	1.30	1.45

T.C. Westport—Llandudno

T.C. Liverpool (Lime St.)—Westport

TRAINS FROM WESTPORT

AFTERNOON TRAINS (W).						
			p.m.	p.m.	p.m.	p.m.
WESTPORT		Dep.	1.10	1.25	1.50	2.40
WOLSTANTON		Dep.	—	—	1.55	—
AUDLEY		Dep.	—	—	2.10	2.50
BARTHOMLEY		Dep.	—	—	2.15	—
MEREMOOR		Dep.	—	—	2.25	—
CREWE		Arr.	1.30	1.45	2.30	3.0
CREWE		Dep.	1.40	2.5	Stop	3.10
Stafford		Dep.		2.38		—
Rugby		Dep.		—		—
LONDON (Euston)		Arr.		5.35		—
Carlisle		Dep.				—
Glasgow (Cent.)		Arr.				—
Edinburgh (P. St.)		Arr.				—
LIVERPOOL (L. St.)		Arr.				4.10
MANCHESTER (L. Rd.)						
CHESTER		Dep.				
RHYL		Dep.				
Llandudno		Arr.				
Bangor		Dep.				
Holyhead		Arr.				
Shrewsbury		Dep.	2.30			
Bristol		Arr.	5.20			
			Stop			
Plymouth		Dep.				
Penzance		Arr.	—			

Through Coach Bristol (T.M.)

Through Train to Euston. R.C. Crewe—Euston.

T.C. Liverpool (Lime St.)

SECTION OF PUBLIC TIME TABLE FOR "B"

TRAINS TO WESTPORT

AFTERNOON TRAINS (W)						
				—	—	—
				—	—	—
				—	—	—
				—	—	—
Penzance			Dep.			
Plymouth			,,			
				a.m.		
Bristol (T.M.)			,,	9.15		
				p.m.		
Shrewsbury			,,	12.11		
Holyhead			,,			
Bangor			,,			
Llandudno			,,			
Rhyl			,,			
Chester			,,			
Manchester (L. Rd.)			,,			
					a.m.	
LIVERPOOL (L. St.)					11.50	
Edinburgh (P. St.)			,,			
Glasgow (Cent.)			,,			
Carlisle			,,			
LONDON (Euston)			,,			
Rugby			,,			
Stafford			,,			
					p.m.	
CREWE			Arr.	12.40	12.55	p.m.
CREWE			Dep.	12.50	1.5	1.10
Meremoor			,,	—	—	1.15
Barthomley			,,	—	—	1.25
Audley			,,	—	—	1.30
Wolstanton			,,	—	—	1.45
WESTPORT			Arr.	1.10	1.25	1.50

Through coach from Bristol

Through train from Liverpool (Lime Street)

Connection from Birmingham (New Street)

TRAINS FROM WESTPORT

AFTERNOON TRAINS (W)					
			p.m.	p.m.	p.m.
WESTPORT		Dep.	1.0	1.30	1.45
Wolstanton		,,	—	—	1.50
Audley		,,	—	—	2.5
Barthomley		,,	—	—	2.10
MEREMOOR		,,	—	—	2.20
CREWE		arr.	1.20	1.50	2.25
CREWE		Dep.	1.37	2.5	Stop
Stafford		,,	—	2.38	—
Rugby		,,	—	—	—
LONDON (Euston)		Arr.	—	5.35	—
Carlisle		Dep.	—		—
Glasgow (Cent.)		Arr.	—		—
Edinburgh (P. St.)		Arr.	—		—
LIVERPOOL (L. St.)		,,	—		—
Manchester (L. Rd.)		,,	—		—
Chester		,,	—		—
Rhyl		,,	—		—
Llandudno		,,	—		—
Bangor		,,	—		—
Holyhead		Arr.	—		—
Shrewsbury		Dep.	2.30		—
Bristol (T.M.)		Arr.	5.26		—
			Stop		
Plymouth		Arr.			—
Penzance		,,			—

Through coach Bristol (TM)

Through train to Euston. R.C. Crewe—Euston

trains is just as important as in actual practice, since an odd vehicle detached en route can have disastrous consequences! If no more movements about the station are laid down in the working time table "A" calls the attention of the next box and asks "Is line clear for express?" (four beats). Noting the movement of the other block indicator, he sets the road from platform 1 to main line, and pulls off the signals. At 10.0 a.m. the train starts, and the advance starter is watched in case the other operator should decide to "throw it up in the driver's face" due to some emergency arising in the next section ahead. "A" rings through the "train entering section" and notes "B's" response by the movement of the block indicator to "train on line"; and so it goes on for 24 solid hours!

If we had been with "B," the light engine he sent off was a spare being sent up for coaling or maintenance at the sheds at "Westport Junction" whilst the 10.0 a.m. arrival runs in with headboards bearing the legend Edinburgh (Princes Street)-Carlisle-Crewe and Westport—some coaches off an all-night train to London, presumably!

(To be continued)

RAILWAY TOPICS

by J. N. Maskelyne, A.I.Loco.E.

British Railways Standard Class 6 Locomotives

I AM indebted to the Railway Executive for particulars and illustrations of engine No. 72000, *Clan Buchanan*, the first of the Class 6, 4-6-2 mixed traffic locomotives, ten of which are for service in Scotland. Generally, these engines are similar to the " Britannias " but have a smaller and lighter boiler, which renders them suitable for operating on routes from which the " Britannias " are barred.

The complete list of the new " Clans " is: 72000, *Clan Buchanan*; 72001, *Clan Cameron* ; 72002, *Clan Campbell*; 72003, *Clan Fraser*; 72004, *Clan Macdonald*; 72005, *Clan Macgregor*; 72006, *Clan Mackenzie*; 72007, *Clan Macintosh*; 72008, *Clan Macleod*; 72009, *Clan Stewart*, all fine Scottish names that must have a wide appeal.

These engines have been designed at Derby and built at Crewe under the direction of Mr. R. A. Riddles, but, as in the case of other B.R. standard locomotives, the other Regional drawing offices have contributed sections of the design. The leading particulars will be found on the diagram, while the photograph shows the external appearance.

The latest and most modern refinements of detail have been incorporated in the design. For example, engine and tender are carried on Timken tapered roller-bearings throughout, those for the bogie and coupled axles being of the non-split cannon type. The faces of the axleboxes in contact with the horn guides are provided with manganese steel liners welded to the body of the axlebox, and are lubricated with soft grease.

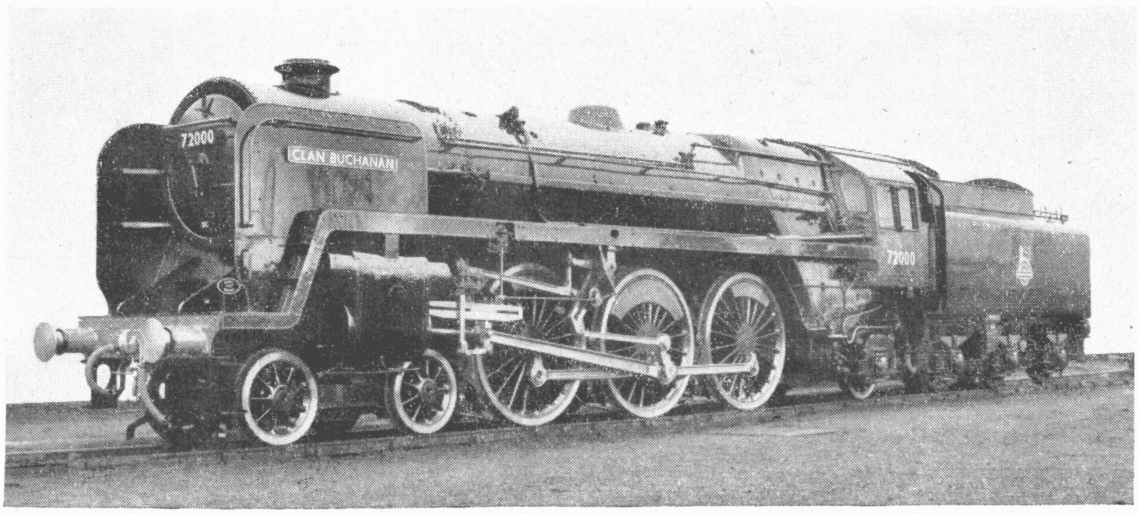
The smokebox is cylindrical and rests on a fabricated saddle. It is of the " self-cleaning " type, having plates and a wire-mesh grid so arranged as to prevent accumulation of ash inside the smokebox when the engine is working. Externally, on the right-hand side, a tri-tone chime whistle is mounted, operated by a flexible cable led through the right-hand handrail.

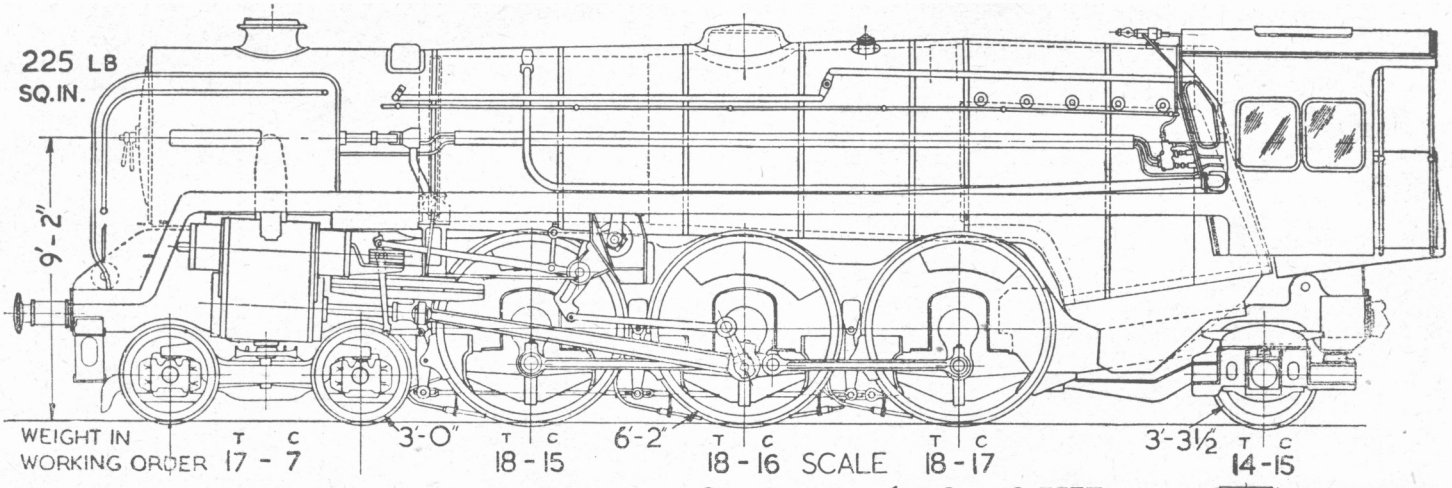
The main frames of the engine are of steel plate, $1\frac{1}{4}$ in. thick and spaced 3 ft. $2\frac{1}{2}$ in. apart. They are well braced by vertical and horizontal stretches and by pin-jointed cross-stays attached to the horn-plates. The rear-end frame extension consists of two slabs 2 in. thick, riveted to the main plates behind the trailing coupled wheels and carrying a fabricated dragbox at the back end. A solid drawbar transmits the tractive effort to the tender, with side intermediate buffers on the tender bearing on rubbing plates on the engine dragbox.

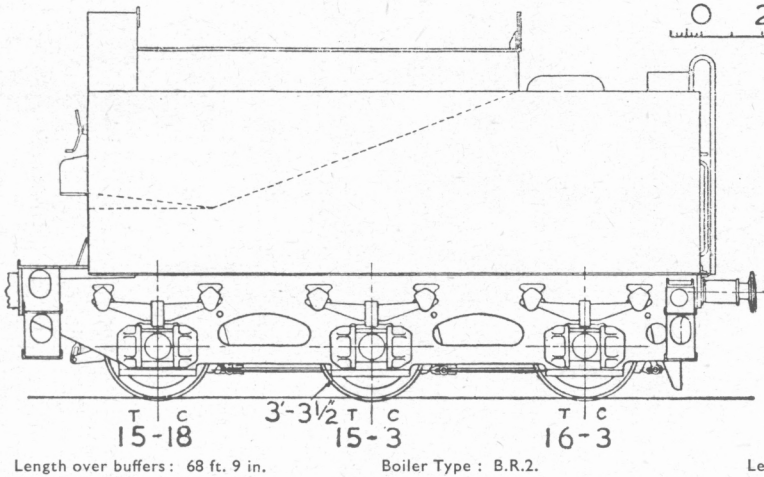
Two of the vertical stretchers support the front of the boiler barrel and the firebox front on adjusted brass wearing liners, while the back of the firebox is carried on brackets on the rear extension frames. The side footplating is carried by brackets fixed to the boiler.

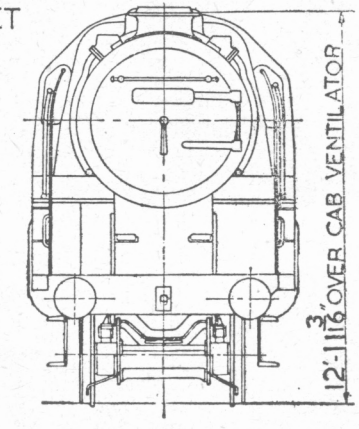
The cab structure is carried by cantilever supports attached to the firebox backplate and by a diaphragm plate at the dragbox. This arrangement allows full freedom for the cab to move with the boiler as expansion takes place. All boiler fittings and pipes are kept free from the main frames to avoid differential expansion and prevent fractures due to this cause. For this reason, the exhaust injector on the right-hand side and the live-steam injector on the left are carried on brackets attached to the ashpan and foundation ring.

The cab floor plate is extended backwards to form a solid platform for the screw-up to the front plate of the tender, and the normal hinged fall-plate is dispensed with.









STANDARD CLASS 6 4-6-2 ENGINE

Length over buffers : 68 ft. 9 in.
Total Wheelbase : 58 ft. 3 in.
Width over Platform : 8 ft. 7¼ in.
Width over Cylinders : 8 ft. 8⅜ in.
Cylinders (two) : 19½ in. x 28 in.
Tractive Effort : 27,520 lb.
Adhesion Factor : 4.59.
Brake per cent. : Engine and Tender, 50.6
Minimum radius curve (with specified gauge widening) : 4½ chains.

Boiler Type : B.R.2.

Boiler Barrel diameter (outside) : 5 ft. 4 in. increasing to 6 ft. 1 in.

Firebox (outside) : 6 ft. 9 in. long x 7 ft. to 6 ft. 8 in. wide.

Tubes : 35 large, 5½ in. o.d. x 7 s.w.g. ; 108 small, 2⅜ in. o.d. x 11 s.w.g.

Superheater Elements : 1⅜ in. o.d. x 10 s.w.g.

Length between Tubeplates : 17 ft.

Heating surfaces :	sq. ft.
Tubes	1,878
Firebox	195
Total evaporative	2,073
Superheater	628

Free Flue area : 5.73 sq. ft.

Grate area : 36 sq. ft.

Weights :	Full		Empty	
	tons	cwt.	tons	cwt.
Engine ...	88	10	80	9
Tender ...	47	4	21	4
Total ...	135	14	101	13

Tender type : B.R.1.
Tender capacity :
Coal : 7 tons.
Water : 4,250 gallons

This is "O" Gauge

by M.H. Cox

IN the previous article we dealt broadly with the use of certain Government surplus motors as a means of supplying motive power for " O " gauge locomotives, and now we come to the actual building of an engine so fitted. I am at present completing a North Eastern 0-8-0 heavy goods locomotive of the " T1 " class, and, as this is fresh in my mind, I am going to start by describing its construction.

The first items to be made are the locomotive main frames; for these will be needed two strips of 16-gauge brass, 1 in. wide. Mild steel sheet can be used, but personally I avoid the use of steel like the plague, because, not having overmuch spare time, locomotive building is a slow process, and rust becomes a very serious menace. My workshop is in my garage—not a dry place at the best of times, and downright wet when a dripping car is brought in most nights. Many of you will not be so afflicted, but even so a pair of steel frames are liable to rust under ideal conditions if certain soldering fluids, such as killed spirits are used. Each of your strips of metal is going to be one frame, and on one of them must be marked out the final form of the frame as shown in Fig. 1. Mark out, but do not drill, the various holes shown. When all marking out has been done, and not before, cut out the frame to the outline. I always do this job with a small cold chisel made from a 4 in. length of $\frac{3}{8}$ in. dia. silver steel rod. Use this in conjunction with a small hacksaw to rough out the shape of the frame. When cutting out by this method, unless you have plenty of experience, be sure to leave about 1/32 in. of metal outside the line to be cleaned off by filing, which should be done next. Do not, at this stage, worry about too posh a finish on the edges of this frame, but do be sure that the outline is accurate.

Now drill in this frame the holes marked *A* & *B* with a number 43 drill, or 3/32 in. if you haven't got number drills, and countersink for 8-B.A. screws. Place the complete frame on the second frame blank, mark through for hole *A*, drill No. 43 and screw the frames together with an 8-B.A. countersunk head screw and nut on the back. Now line the frames up suitably and drill through hole *B* and screw together here also. Run your scriber round the frame outline as closely as possible to the first. Separate the frames again and cut out the second frame exactly as the first. When this is done, screw the frames together as before, and finish off both frames together with a fine file, finally draw filing to obtain a good finish. Now, without again separating the frames, drill all holes to the sizes given, and countersink where shown. If you use a hand drill, be sure to get the holes as square as possible through the frames. Don't at this stage tap the 10-B.A. holes for the brake hangers: the threads would not be worth the proverbial " tinker's cuss " when you finally came to using them. When every hole is drilled and finished, separate the frames, remove any burrs there may be, and put the finished frames somewhere safe.

The next items to be made are the frame stretchers. There are five of these and they are cut from $\frac{1}{4}$ in. square brass rod, and are all $\frac{7}{8}$ in. long. Fig. 2, *a*, *b* & *c*. For those with a lathe available this will be child's play, but, as a tip to avoid the use of the 4-jaw chuck, take a 1 in. length of $\frac{1}{2}$ in. dia. brass rod, centre and drill right through $\frac{5}{16}$ in. use a pilot first. Remove from chuck, and saw a slit along the length of the resulting tube to form a sort of long split ring. Fig. 3. Your $\frac{1}{4}$ in. square bar will now push into this, and when the ring is tightened in the 3-jaw chuck the square bar will run near enough true. Using the tailstock as a stop, part off five stretchers exactly $\frac{7}{8}$ in. long, mount each one successively in your split sleeve, centre each end deeply, drill No. 51 and tap 8 B.A. Those without a lathe will have to saw and file the stretchers

Continued from page 6, THE MODEL RAILWAY NEWS, *January*, 1952.

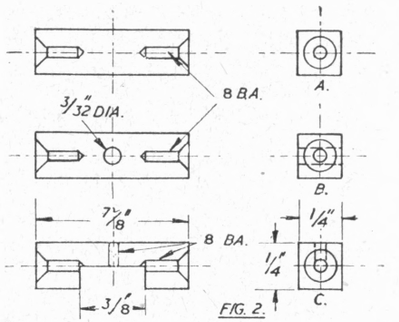


FIG. 2.

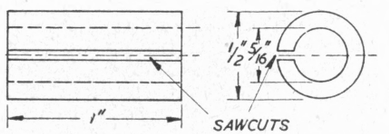
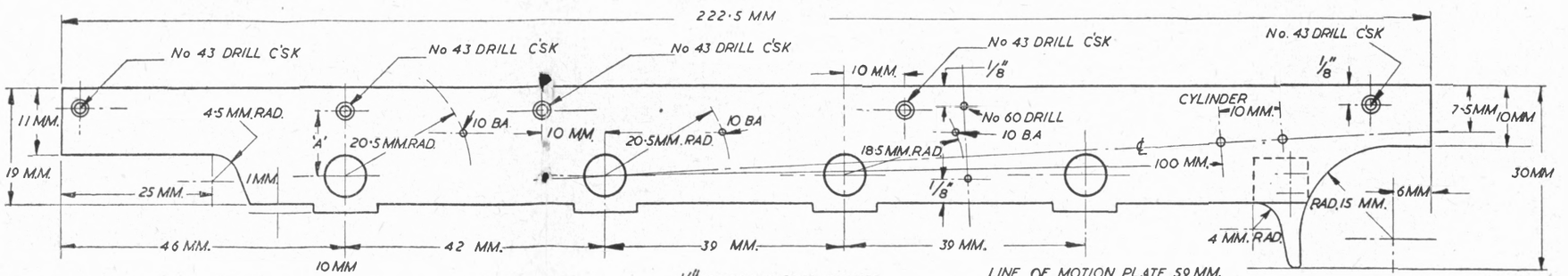


FIG. 3

to length, making sure the ends are dead square. Centre pop, drill, and countersink the ends and then tap 8 B.A. Be very careful to see that the ends are square and the tapped holes central, because on this depends the accuracy of the whole frame assembly. By the way, the holes in the ends are countersunk in order that the frames and the stretchers can pull up dead square against the largest shoulder possible. Of the five resulting stretchers, one, the farthest forward, is now complete. The remaining four should now all be marked with the centre of one side, and three of them drilled, dead square, 3/32 in. right through; ream these holes if you have reamers. As these holes form the bearings of the worm shaft, accuracy here is essential. The fifth stretcher is simply cut away in the middle as shown in Fig. 2c, and the two 8 BA holes drilled and tapped. Now assemble the frames and five stretchers with 8 B.A. × $\frac{1}{4}$ in. countersunk head screws, and check for alignment and squareness. When all is well, mark the positions, and indicate one end of each stretcher so that they can always be correctly assembled in future. Any errors in alignment and squareness now will remain, and you will forever be saddled with a lop sided engine that will, probably, never stay on the track.

At this stage it will be as well to make and fit the guard irons to the front of the frames. I forgot this, and had to pull the completed frames apart again after the wheels had been fitted and squared; I shan't forget that one again in a hurry ! Cut the irons to shape, and, if you have the facilities, silver solder them to the frames in the position shown. Soft solder won't do for this job, so the copper bit merchants will have to cut their irons to the dotted lines on the sketch and rivet them to the frames inside, soldering as well if you like. Those of you who rely solely on soft solder and have never tried silver soldering would be very well advised to try your hands at it, using " Easy-flo " strip and flux. A small self blowing gas torch costing a shilling or two is all you require. I think you will decide that soft soldering is far more troublesome and not a patch on it for strength.

The last items needed to complete the frames are the bushes for the axles. For these you will need a short length of $\frac{5}{16}$ in. dia. phosphor bronze rod. Don't use brass here, it won't last any time at all. Remember that this engine is going to be powerful in comparison with almost any other " O " gauge engine you have seen—mine has pulled loads of around 60-70 lb. weight. For this kind of work the engine itself is heavy, and the loads on the axles and bearings are considerable. Place the length of P.B. in the 3-jaw chuck, face the end, centre, and drill $\frac{5}{8}$ in. deep with a No. 14 drill, shoulder down to $\frac{1}{4}$ in. dia., $\frac{13}{16}$ in. long, part off leaving 1/32 in. of shoulder. Repeat seven times more, and Bob's your uncle. By the way, only drill No. 14 for $\frac{5}{8}$ in. deep (enough for two bushes) at one time, re-centre and start again after this because even the best drills wander sometimes. Push the completed bushes into the holes in the frames, shoulders outside, and fix with a fillet of solder on the inside, use soft solder here so that bushes can be changed when worn out. When all are fixed in, open out the No. 14 holes with a $\frac{3}{16}$ in. reamer, running it right through a pair of bushes so that the completed bushes line up properly.



NOTE: DIMENSION 'A' TO SUIT WORM GEAR CENTRES

1/4" DIA FOR TURNED BUSHES. TO SUIT O.D. OF SLEEVES IN ALL OTHER CASES.

LINE OF MOTION PLATE 59 MM. FROM DRIVING CENTRE ON CYLINDER CENTRE LINE.

FIG. 1.

The latheless unfortunates will have to use quite a different system The bushes will have to be made of brass tube. Use the hardest grade of $\frac{3}{16}$ in. i.d. tube, you can get. The bushes for leading and trailing axles can be the full width of the frames plus 1/32 in. each side, i.e., $1\frac{1}{16}$ in. long. Put two little holes, $\frac{1}{16}$ in. dia. in each tube so that you can

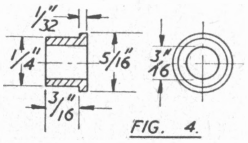


FIG. 4.

oil the centre part of the bearing. The bushes for the centre axles must be divided for the worm wheels, and so are each $\frac{1}{4}$ in. lengths of the same tube. Soft solder the two long tubes into one frame only, and see that the other end of the tube is a light push fit in the other frame. If you solder both ends, you will never be able to separate the frames again, and personally I consider this to be a disadvantage in small locomotives of this size. The four short lengths for the middle axles are all soldered in, of course. Line them up with a bit of $\frac{3}{16}$ in. rod poked through each pair while soldering, and leave $\frac{1}{32}$ in. protruding outside the frames in every case.

You now have the frames of the engine more or less complete. Those of you who find all this but a two evening job can get on with the wheels. Lathe merchants will want cast-iron ones and the castings must machine to $1\frac{1}{4}$ in. dia. on tread. Adopt fine or coarse standards as you please. For wheel turning I suggest you follow the method described by Michael Longridge, though there are other ways that are just as accurate. Those without lathes will buy complete wheels on axles, no doubt, $1\frac{1}{4}$ in. dia. and your job is done. This is where you catch up on the time you lost on the stretchers and axle journals. A tip here, don't take the first wheels you are offered, I have seen some that are pretty bad !

(To be continued)

WITH THE CLUBS

Sevenoaks Model Railway Club

The Sevenoaks Model Railway Club, having found new premises, has restarted its activities. Meetings are held on Friday evenings in the carpentry shop, Winchester House School, Hitchin Hatch Lane, Sevenoaks.

At present meetings are devoted to construction work and a circular double track in 16.5 mm. 3-rail is being built for test purposes, using the corner sections from the well-known portable railway of the late Col. Meldrum. When this has been completed work will continue on the rebuilding of the main station, which was in hand when the club lost the use of the former clubroom. A 7 mm. scale railway has also been commenced.

Full particulars may be obtained from L. V. RAINEY, "Beverley," 9, Hillside Road, Sevenoaks, Kent.

Solihull and District Model Railway Club

The following meetings have been arranged for March:—

March 13th. Talk "General Observations on Model Railways," by Mr. Anderson.

March 27th. "Snags and Queries Night."

Hon. Secretary: R. SMITH, 123, Highwood Avenue, Solihull, Warwickshire.

Hull Miniature Railway Society

The following meetings have been arranged for March:—

March 6th. "Construction of an 'O' Gauge Wagon." A demonstration by Mr. A. G. Page.

March 13th. "At Home," to the Botanic Gardens Mutual Improvement Class, and The Societies Annual Exhibition.

March 20th. "The Summer Session." Where would you like to go this summer ?

March 27th. "Juniors' Night." A programme arranged by the Junior members.

Hon. Secretary: R. EVERY, 10, Wells St., Newington, Hull, Yorks.

Leicester Model Railway Group

The next meeting is to be held at the Hall of the Church of the Martyrs, Westcote Drive, Leicester, at 7.30 p.m., on Thursday, March 13th, 1952, and is a demonstration evening, when the experts will show how to tackle the various jobs connected with railway modelling.

An invitation to attend any of our meetings is extended to anyone interested in the hobby.

Hon. Secretary: D. M. MOORE, 79, Evington Drive, Leicester.

Guildford Model Yacht, Power Boat, and Engineering Society

The engineering section of this society is now getting under way with its 1952 programme, which will include lectures and visits of general and railway interest.

The section caters for those interested in all types of model engineering. Interest is, however, mainly in railways of gauges 16.5 mm. to 5 in.

The section owns a small workshop, 160 ft. of portable track in gauges $2\frac{1}{2}$ inch, $3\frac{1}{2}$ inch, and 5 inch, and construction has just begun on a 16.5 mm. gauge layout for those interested in 4 mm. scale.

Meetings are held every Wednesday evening, commencing 7.30 p.m. at the club room:—Lower Floor, Astra House, 97, Portsmouth Road, Guildford.

Subscription rates: Seniors, 15s.; juniors (14-18 years) 7s. 6d. per annum.

For further particulars apply to the engineering secretary, V. H. R. SELLEY, 42, Raymond Crescent, Dennisville, Guildford, or at the club room on any Wednesday evening.

Chester Model Railway Club

We are pleased to report that the club, formed in February, 1951, is making good progress and now has 47 members.

Meetings are held each Friday in the permanent club room at the Ermine Hotel, Chester, and a varied programme of club events is being arranged for the coming months.

A temporary "OO" (16.5 two rail) layout is in operation together with 120 ft. of "O" gauge test track, and present effort is divided between construction of a "OO" exhibition layout, and extension of the "O" track to form a complete main line system. The club also has access to an outdoor $2\frac{1}{2}/3\frac{1}{2}$ inch gauge track, on which the live steam enthusiasts will test and demonstrate their passenger hauling locomotives when weather conditions improve.

Local enthusiasts are always welcome at the club room.

Hon. Secretary: G. H. GRAY, Parkfield, Kilmorey Park, Chester.

The North Middlesex Model Railway Club

The Wood Green Model Railway Club has been re-organised under the above title.

Meetings are held every Wednesday evening from 7.30 p.m. in Lacey Hall, Hazelwood Lane, Palmers Green, and the building of a new portable layout has already begun.

New members are welcome, and anyone interested is cordially invited to attend one of the weekly meetings.

Enquiries regarding the club should be addressed to the Hon. Secretary : R. JAGGARD, 134, North Circular Road, London, N.13.

Southern Railway Passenger Stock

by **R. E. Tustin** (*Leicester Model Railway Group*)

No. 20. Ex S.E. & C.R. Three Coach Set No. 522

WITH the formation of the working union between the South Eastern and the London, Chatham and Dover Railways, in 1899, an extensive programme of improvements to rolling stock was embarked upon. Mr. Harry Wainwright had been in charge of the carriage and wagon department at Ashford and he became Locomotive, Carriage and Wagon Superintendent of the newly formed South Eastern and Chatham Railway. In the programme of improvements were a total of 200 bogie carriages for the main lines and it was accordingly not unexpected that their appearance closely resembled the stock of the S.E.R.

A complication was that the South Eastern used the automatic vacuum brake and the Chatham company the Westinghouse. Much of the new stock was therefore fitted with both brakes in order that it could be used on either section until it was possible to convert the Chatham stock to the vacuum brake which had been adopted as standard. The new vehicles were finished in the S.E.R. Sovereign purple lake lined finely in gold. Stone's system of electric lighting was used. In the description of the new vehicles at the time a special point was made of the double batteries, the compartment lamps being wired in two circuits so that one lamp only was used in the daytime when the trains were passing through the rather numerous tunnels on the line. It was also stated that upholstery in Tashmere tapestry was provided in first class compartments, Tashmere velvet in the seconds, and "railway velvet"—whatever that may have been—in the thirds. It was not considered necessary to provide through corridors to the trains owing to the comparatively short runs on the Company's system and an intermingling of vehicles with lavatory accommodation amongst the ordinary compartment stock was considered to be all that was necessary for main line traffic.

After a number of years of service some of the

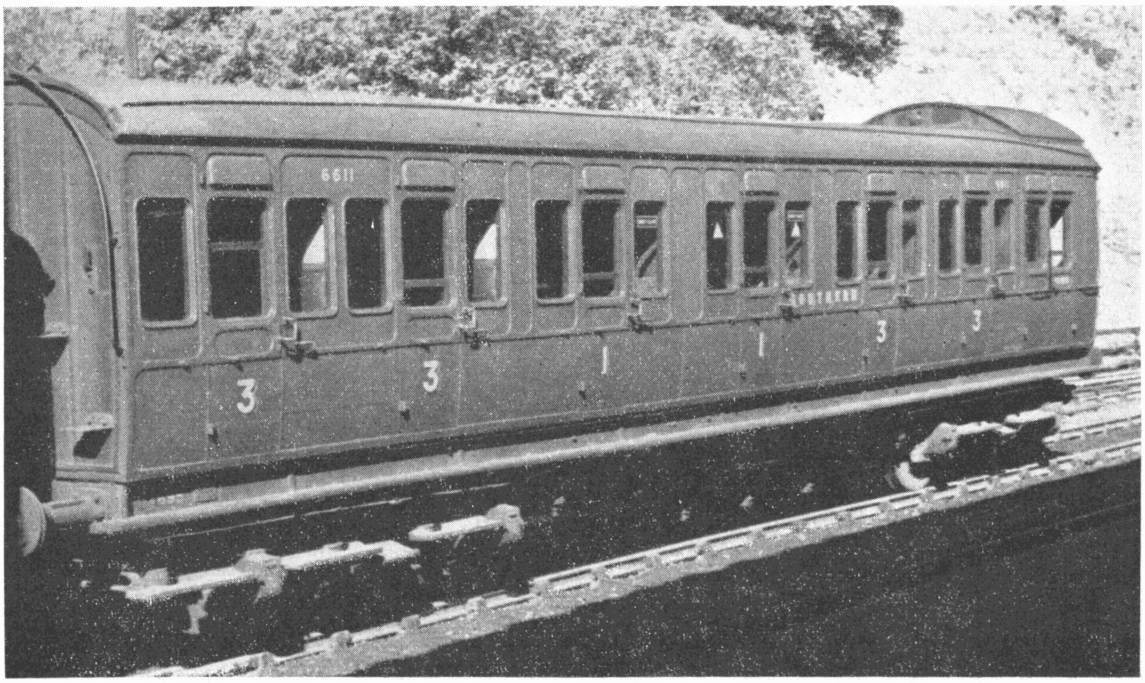
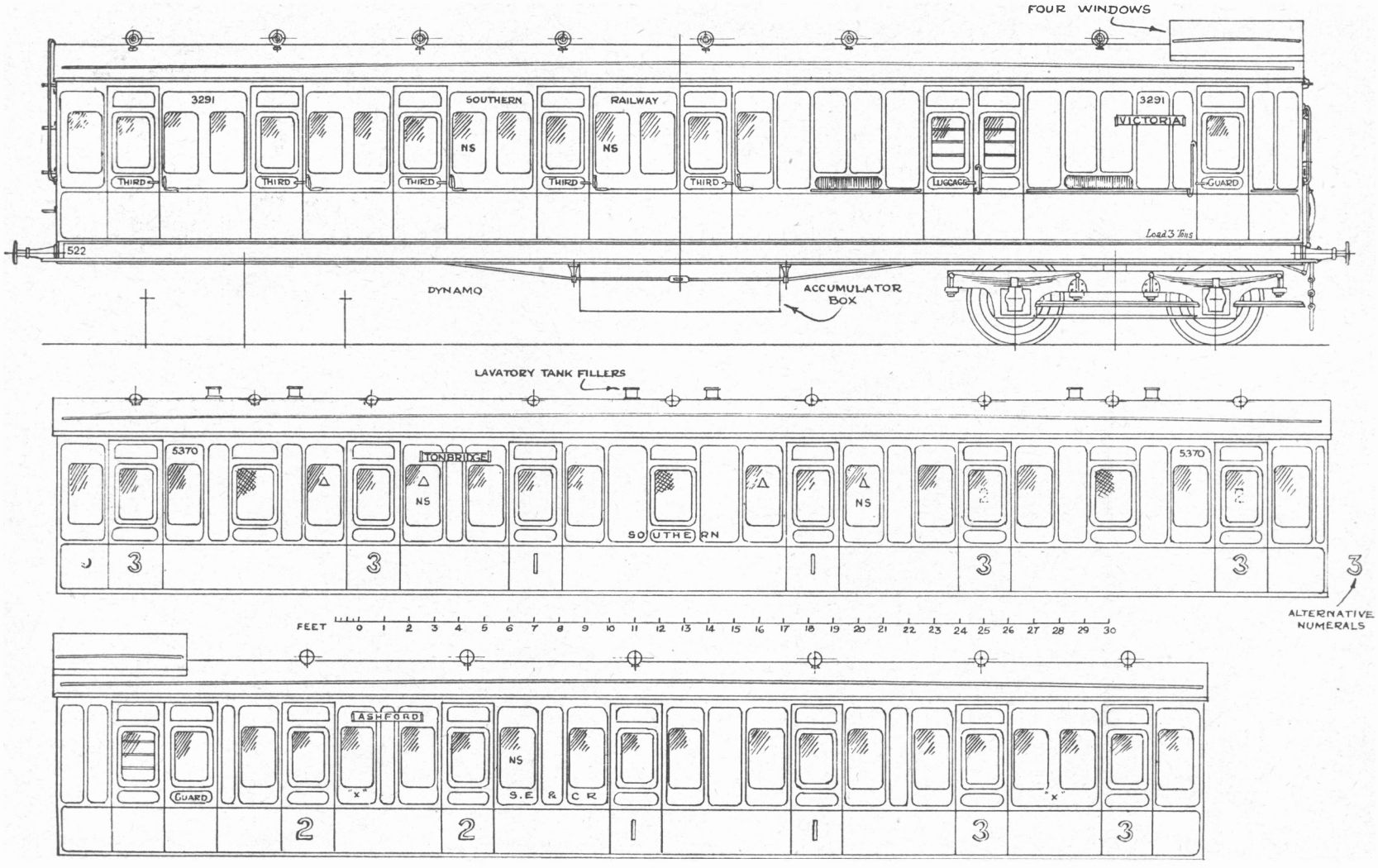


Photo by] *Composite Brake No. 6611* [*K. G. Carr*


FOUR WINDOWS
3291
SOUTHERN
RAILWAY
3291
VICTORIA
THIRD
THIRD
THIRD
THIRD
THIRD
LUGGAGE
GUARD
NS
NS
522
Load 3 Tns
DYNAMO
ACCUMULATOR BOX
LAVATORY TANK FILLERS
5370
TONBRIDGE
5370
NS
NS
SOUTHERN
3
3
1
1
3
3
3
ALTERNATIVE NUMERALS
FEET 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
ASHFORD
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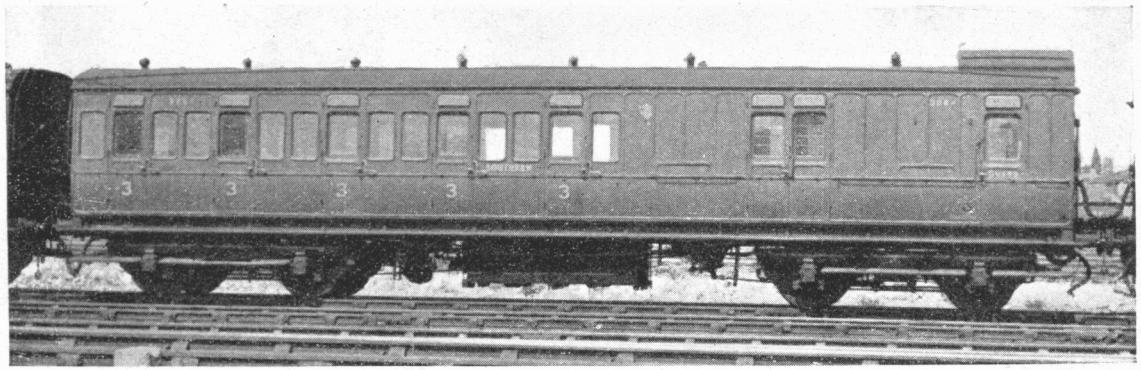


Photo by] *Third Brake Vehicle No. 3284 at Tonbridge in 1947* *[D. Cullum*

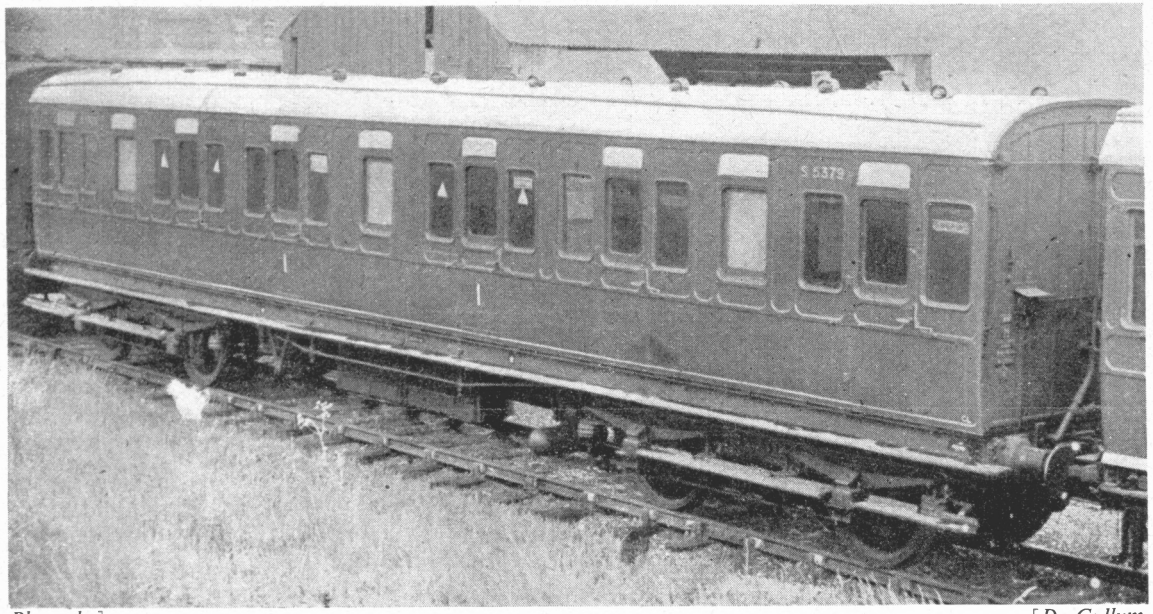
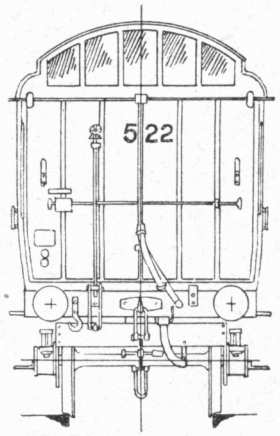
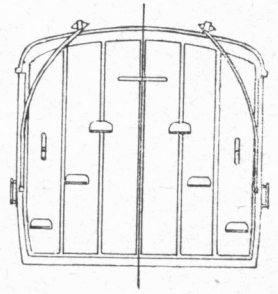


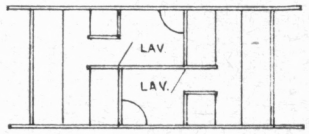
Photo by] *[D. Cullum*
Composite No. 5379 at Lenham in 1949. This vehicle was in malachite green but bore the S prefix to the number as adopted by British Railways



End elevation of No. 3291



End elevation of No. 5370



ARRANGEMENT OF LAVATORIES IN VEHICLES 5365 - 5379

coaches were made up into set trains of various lengths for stopping services on the main lines and for working the country branches. The three coach set which forms the subject of this month's article appears to have been one of thirteen sets which were classed " XB " and bore S.E.C. set numbers 58 to 71 inclusive. Certain of these sets must have been re-shuffled for latterly the S.R.

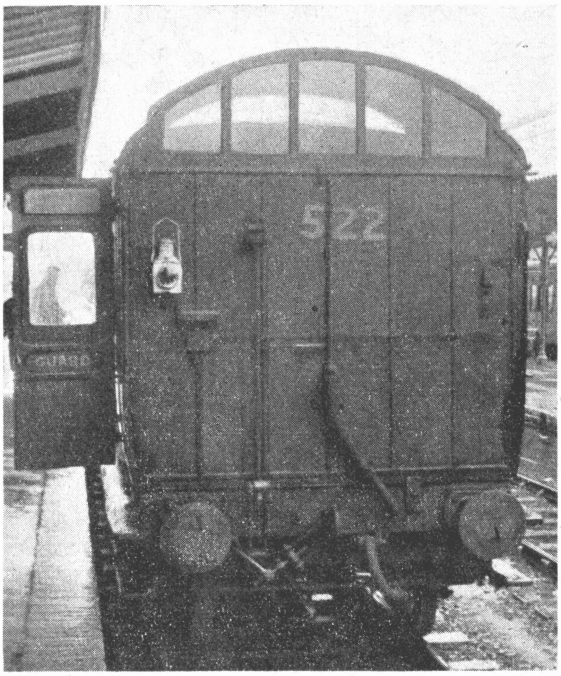


Photo by] [*D. Cullum*
" *Brake* " *end of composite No.* 6615 *taken at Tunbridge Wells West in* 1949

had only eight of them numbered 521 to 528. A set of this nature appears very suitable for modelling, especially in view of the short length of the coaches and I am accordingly indebted to Mr. Cullum for kindly supplying detailed dimensions and some good photographs of Set No. 522 which have enabled me to prepare the accompanying drawings.

The third brake (Vehicle No. 3291) is shown in the upper drawing and formed one of a series of twenty vehicles which were built about 1905. The S.E. & C.R. numbers appear to have been 830 to 849 and they became Nos. 3272 to 3291 on the S.R. coach list. The vehicle contained a reasonably long van fitted with the usual " birdcage " look-out as favoured by the S.E.R. and its successor. It will be noticed that this has a rounded appearance and is rather different from those found on the later stock (as, for example, on the vehicle illustrated in No. 15 of this series which appeared on page 8 of THE MODEL RAILWAY NEWS for January, 1951). The rest of the vehicle consisted of five third class compartments. The slight difference in the panelling of the van sides should be noted. I understand that 3290 and 3291 were as shown in the drawing whereas most if not all of the others were similar to the photograph of No. 3284. The shaded panels were painted with " blackboard " paint in order that the destination of the contents of the van could be chalked on. The length of the body was 50 feet and the tare 25 tons. The drawing shows the lettering for the first style of S.R. painting—dark green to the body sides fully lined out in black and yellow. The lettering " NS " indicates a non-smoking compartment.

The centre vehicle, No. 5370, was originally a tri-composite with two third class, two first class and two second class compartments, each having separate lavatories. (The seconds eventually became thirds when the second class was abolished.) The body length in this case was 51 feet and the tare 29 tons. There were fifteen of these vehicles carrying S.E.C. numbers 800 to 814 and subsequently S.R. numbers 5365 to 5379. This vehicle is shown in the middle drawing which depicts it in the style of lettering adopted in the last few years of the Southern Railway company with the single word " Southern " in the so-called " sunshine " lettering in the centre of the waist line. It was painted in the rather bright malachite green on the body sides, the roof being grey and the ends and the underframes black.

The lower drawing shows the short composite vehicle at the other end of the set. This appears to have been the oldest of the three having been built about 1900 and at first fitted with both forms of brake. The vehicle in Set No. 522 was 6615. In S.E. & C. days these vehicles were 148 to 162—fifteen vehicles in all—and they became 6607 to 6621 in the S.R. list. The body length was 46 feet and the tare 25 tons. The accommodation comprised a very small van with " birdcage " look out, two second class, two first and two third class compartments. I have shown on the drawing the style of lettering as used by the S.E. & C.R. At the time of the preparation of the drawing I did not have details of the old numbering and have accordingly indicated the number position with the letter " X." My friend, Mr. P. S. Martin, has very kindly provided me with the S.E. & C. numbering.

Mr. Cullum tells me that none of these sets now appear to be in traffic but that an odd vehicle—No. 3291—is at work on the Kent and East Sussex section whilst a number of others have been taken into service stock for departmental duties. Alternative numbers of similar sets were:—

Set	521	3290	5371	6618
	527	3281	5366	6613

The S.E. & C.R. seems to have been a singularly neglected line as far as modellers are concerned and it is very rare that models of its rolling stock are seen. This seems rather curious for Mr. Wainwright's locomotives were of a very neat design and the style of finish reached the highest level. The attractive colours of the coaches combined with the unusual " birdcages " to the vans resulted in

(*Continued on page* 64)

An $\frac{1}{8}$th Scale North London Railway 4-4-0 T

A well-known model on view again

IN 1888, a beautiful one-eighth scale working steam model of the North London Railway 4-4-0 tank engine No. 60 was built at Bow Works. Complete in every detail, and undoubtedly one of the most perfect model locomotives ever made, it was shown at the Paris exhibition in 1889.

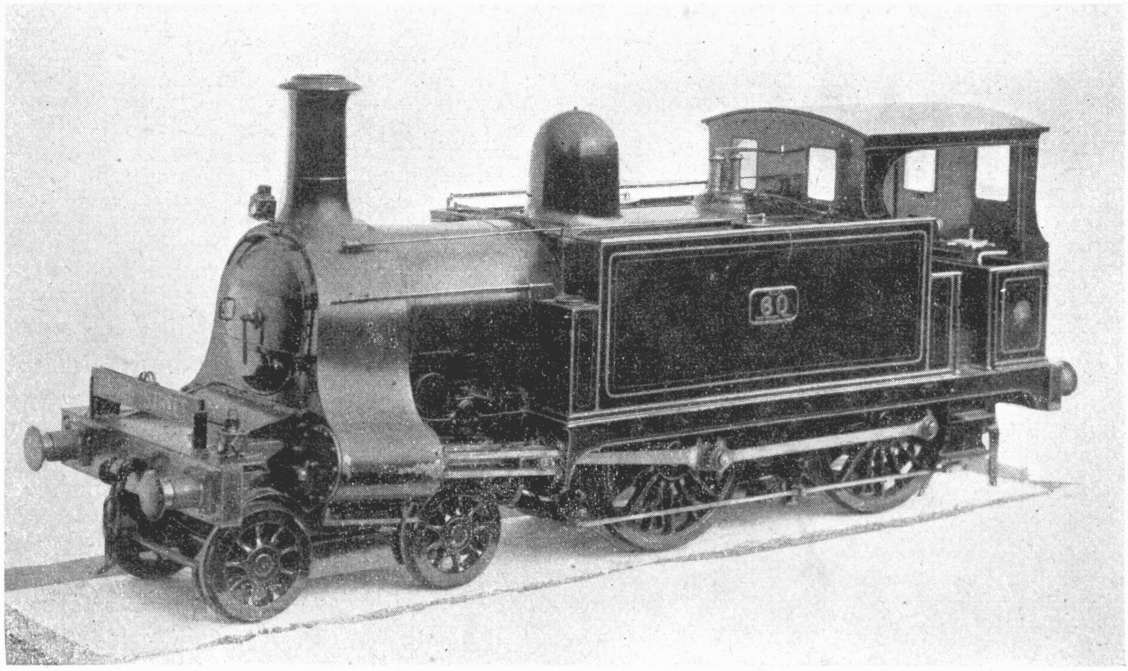
For many years this model stood at Broad Street station, headquarters of the North London Railway, and was duly connected to an electric motor installed in the base of its showcase, the insertion of a penny in the slot provided bringing the wheels into motion. During the last war it was removed to Crewe for safety.

The Public Relations and Publicity Officer of the London Midland Region has now had the model thoroughly overhauled and restored to Broad Street, its spiritual home, where it is expected that it will help to swell the funds of the Railway Benevolent Institution.

The model is finished in the later style of North London livery, namely, black with yellow, red and pale blue lines. It is embellished on each side with the correct coat of arms, and its equipment includes a full complement of detachable destination boards lettered "Broad Street," "Richmond," "High Barnet," "Potters Bar" and other places served by the railway.

The prototype of the model—No. 60—was built at Bow Works in 1888 (works No. 205) under Mr. J. C. Park's superintendence, and was one of a numerous North London class which was the first to be provided with cabs for the enginemen, although some earlier locomotives were given this improvement on rebuilding. Her two outside cylinders had a diameter of 17 in. and stroke of 24 in., the coupled wheels having a diameter of 5 ft. 5 in. The boiler pressure was 160 lb. per sq. in. and the weight 46 tons in working order, the fuel capacity being only $1\frac{1}{2}$ tons of coal and 850 gallons of water.

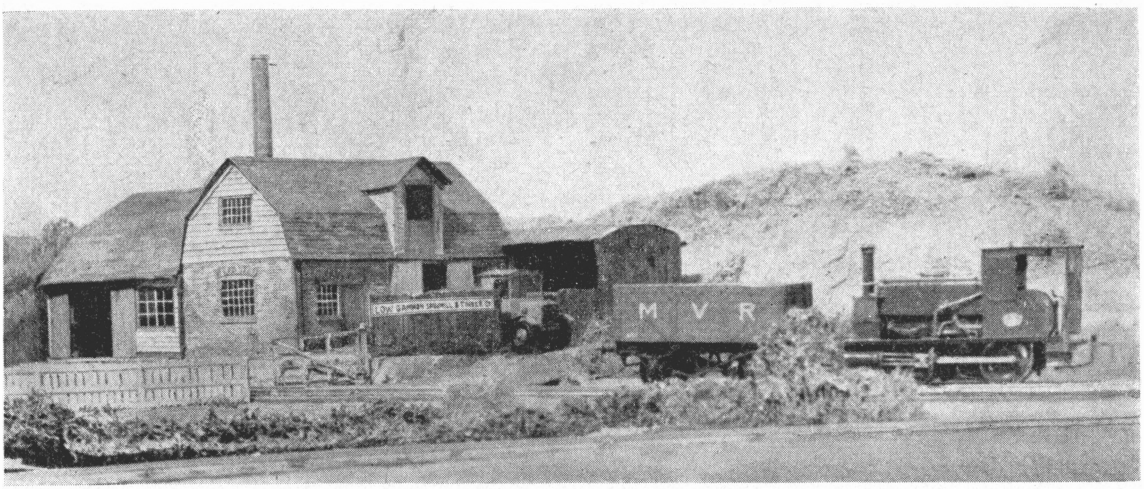
No. 60 was rebuilt at Bow in 1904 (and given a new works number 307) and after the London & North Western Railway took over the North London on January 1st, 1922, she was renumbered 2852. She became L.M.S. No. 6491 in April, 1927, and was broken up at Crewe two years later.



The model N.L.R. 4-4-0 tank once more on show at Broad Street Station

A Sawmill and Timber Yard

J. H. Ahern describes an attractive lineside feature

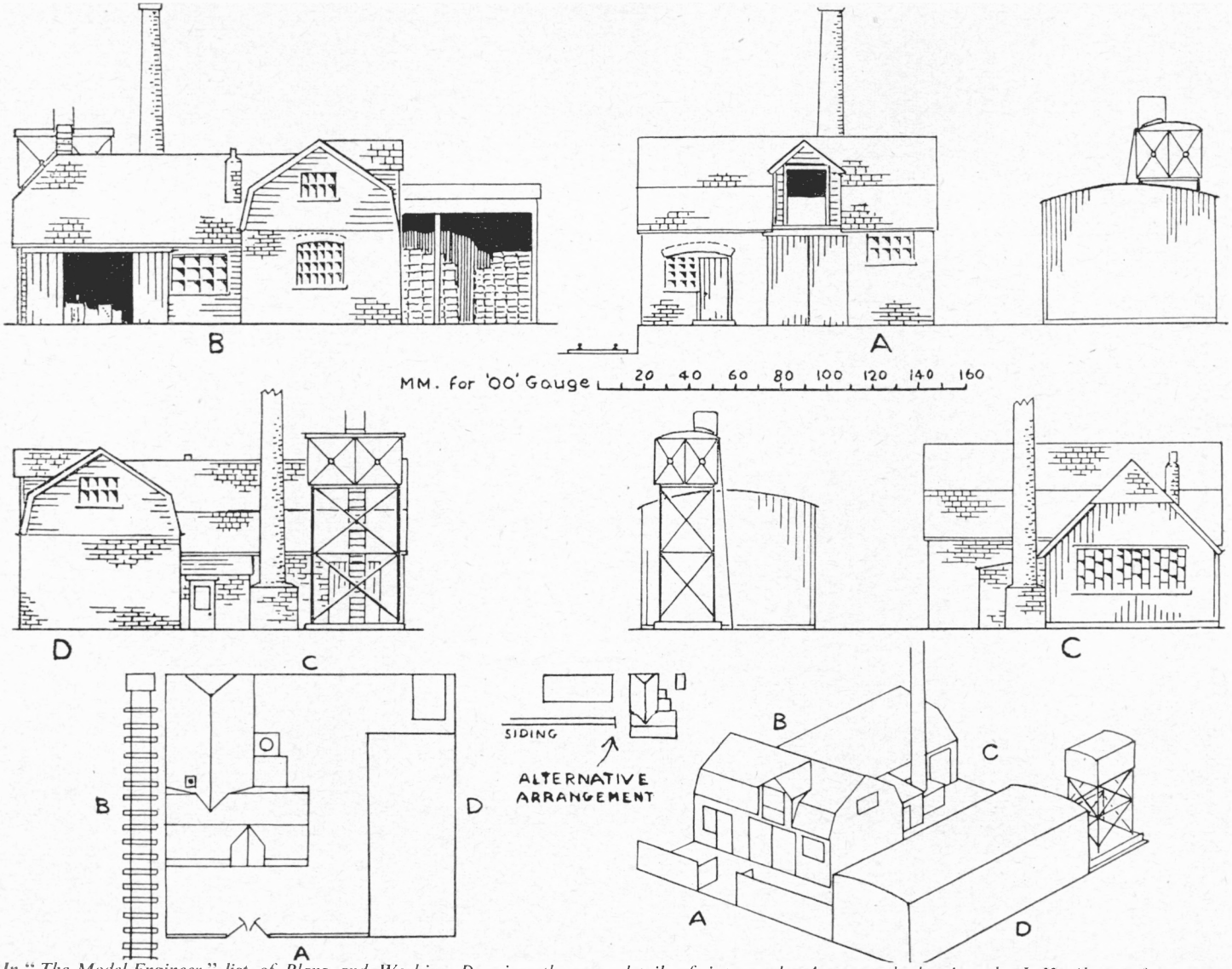


THE attached drawings give details of a model sawmill and timber yard which I built some time ago to fill up an odd corner. The design is not based on any particular prototype but was just evolved " out of my head " to fill the vacant space. It turned out very well, and seems worth passing on for the benefit of any reader who may care to use or adapt it. As shown in the drawings, it occupies a space of 9 in. by 10 in. in 4 mm. scale, but the actual model was arranged a little differently as it had to fit into an irregularly shaped space. The disposition of the building can, of course, be modified according to the shape of the site, and I have added a small plan of one alternative which reduces the depth from front to back while increasing the width. One useful feature of the model is that it presents a good appearance from any side (except, perhaps, from behind the seasoning shed) and is therefore well adapted to an " island " baseboard. To facilitate identification I have marked the various elevations *A*, *B*, *C* and *D*, and have given corresponding indications on the plan and arrangement diagram. I have called it a sawmill, but with slight modification it could be adapted to quite a number of industrial purposes. The buildings comprise a main workshop with office, store, and a garage for a lorry, which can also serve as a loading bay ; an open fronted seasoning shed, and a boiler house. There is also a water tank.

It seems unnecessary to give much in the way of constructional details as all the necessary information can be found in my book *Miniature Building Construction*, but a few hints as to how I painted my model may be helpful, since I think that a judicious selection of colours had a lot to do with its charm. On the main building all doors, window frames, and barge boards, are painted a light, slightly greenish, blue. The sashing of windows is white, and is achieved by the usual method of scribing the celluloid and running a little white poster colour into the scribed lines with a water-colour brush. The walls of the main building are covered with Modelcraft red brick paper, worked up a little with colours to suggest weathering, and decorated in a few places with moss and creepers. The upper parts of the walls, forming the gable ends, are finished as weatherboarding and painted a very light grey, or rather a broken white, with some planks a shade darker than others to give relief. The rear extension of the main building is of timber, weatherboarded on the sides and with the planks arranged vertically on the end. It is painted a broken white, exactly similar to the gable ends described above. It stands on a couple of courses of brick, or a base of concrete. The roofs are finished with one of the Modelcraft red or brown tile papers.

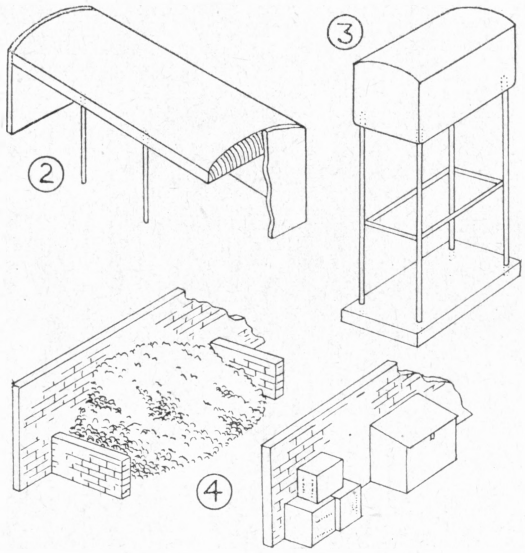
The boiler house is also red brick, and the roof can be slate (but not tile), corrugated iron, or corrugated asbestos. The smoke-stack was made of $\frac{1}{2}$ in. dowel rod, tapered slightly with sandpaper, and covered with the same red brick paper.

The seasoning shed is an open-fronted timber structure, with the boards laid on vertically. I finished it with dark brownish grey poster colour to suggest creosote. The roof is corrugated iron from G. N. Slater, painted a medium grey. For this building I recommend the method of construction shown in diagram 2. The roof is a solid piece of wood, $\frac{3}{8}$ in. or $\frac{1}{2}$ in. thick, planed to the curved shape shown ; the back and ends are thick card or thin plywood and are glued and pinned to the roof. The intermediate supporting posts along the front are " OO " gauge rail or wire of about 14-gauge, forced into holes drilled in the roof block as close



In " The Model Engineer " list of Plans and Working Drawings there are details of sixteen other 4 mm. scale drawings, by J. H. Ahern, of miniature buildings suitable for model railways. The list will be sent free and post free on request from the " Model Railway News " offices

to the front edge as is thought safe. A little care and patience is required to pursuade the corrugated iron to attach itself securely to the curved surface. Apply a priming coat of Durofix to both surfaces ; then give the corrugated iron another coat and bring them carefully together. Press them gently together at intervals of two or three minutes until it is certain that the adhesive has obtained a secure hold, and there is no further risk of the corrugated iron springing away along the edges. Failing corrugated iron the roof could be painted dark grey to suggest roofing felt. How to make

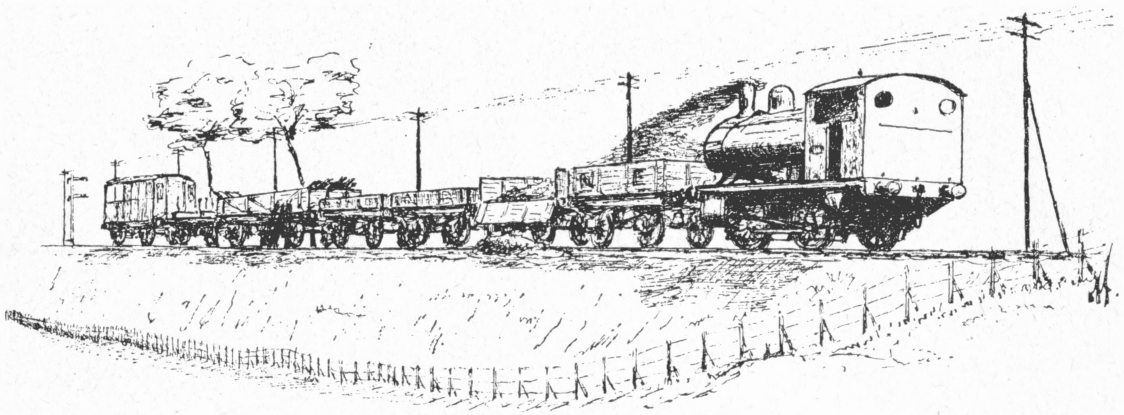


piles of timber for the seasoning shed I have described in *Miniature Building Construction.*

The remaining structure, the water tower on " stilts," is rather important to the effect of the model. The tank is shaped from a block of wood. The corners should be slightly rounded, but it was impossible to show this clearly owing to the small size of the elevations. The girder structure can be mounted on a base of wood, $\frac{1}{8}$ in. thick, finished as a concrete platform. The main corner uprights can be hard 16-gauge wire or " OO " gauge rail, and they are forced and cemented into holes drilled in the base. The upper ends are forced into corresponding holes drilled in the underside of the tank, diagram 3. If this procedure is followed a square and rigid structure will be obtained at the outset, and it will be easy to secure to it with solder the horizontal and diagonal members. The last named should be of a rather lighter gauge of wire, say, 18- or 20-gauge. The roof can be corrugated iron or a rectangle of stiff paper to represent galvanised iron. A smaller rectangle of card, about 10 mm. by 8 mm., should be glued to the roof to represent a manhole cover, and a length of ladder and handrails should be added. The sides of the tank should be covered with thin paper, and narrow strips of paper, bent double, should be applied to the corners. If these are impressed with rivet heads the effect will be improved. The model is painted a light grey all over ; the diagonal lines on the sides of the tank can be represented quite adequately with a pencil and ruler.

I suggest that the buildings be assembled on a base of stiff card, which can be finished as concrete or washed over with grey paint and then glued and sanded. The model can be secured to the baseboard with two or three pins pushed through the card base.

I have not shown the boundary walls or fences on the elevations, but the front wall and main gates are shown on the arrangement diagram. Diagram 4 shows two useful devices for securing and strengthening the boundary walls. We can have a coke dump (moulded in Pyruma, or plastic wood, or carved from a block of wood) near the boiler house. It is painted black, glued, and sprinkled with powdered coke. We can also make use of small blocks of wood, representing crates, packing cases, and bins, glued in the angle between the wall and the base wherever reinforcement may be necessary. There is always plenty of litter of this kind about a yard to provide an excuse for such additions.

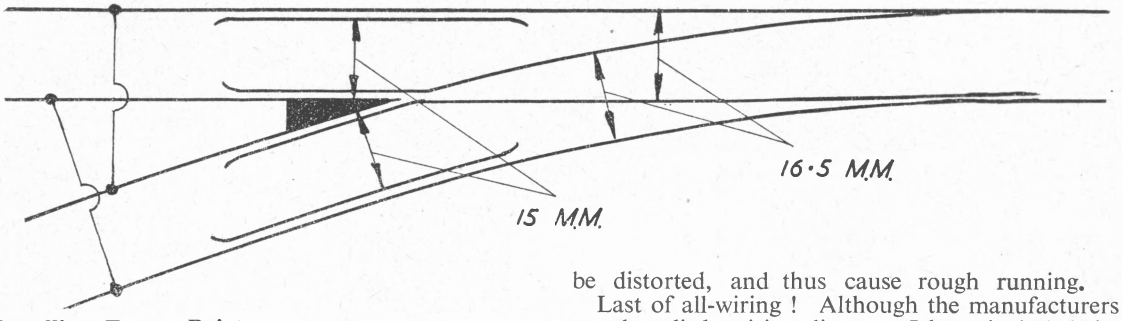


The track-laying train in the lunch-hour—a sketch by W. H. Hart.

Talking Shop

GRAHAM FARISH LTD., of Bromley, Kent, have sent me a pair of Formo 2-rail points (a left-hand and a right-hand turnout) for use with Formo flexible track. The turnout radius is 2 ft.

Each point consists of a stamped-out fibre sleeper base to which is clipped flat-bottom tinned-steel rail. The frog is of plastic, which is fitted in between the two wing rails and held down by a screw inserted from the underside of a supporting sleeper. As with the plain Formo track itself, the sleeper size, sleeper spacing and rail size is overscale. The flangeways and other dimensions do not follow precisely the B.R.M.S.B. recommendations, but I have found that, in practice, vehicles fitted with "B.R.M.S.B." wheels will run through the points satisfactorily.



Installing Formo Points

Because of their very low price, Formo points should appeal strongly to those coming into the hobby and just starting their first layout, so I feel it would not be out of place if I dealt briefly with the installation of these points for the benefit of newcomers who are learning the ins and outs of model railways. The makers themselves state that satisfactory service depends on the installation. This, of course, applies equally to fine or coarse standard points and track and the sketch here will show where slight adjustments were necessary on the samples sent to me.

First of all, measure the dimension from the point of the frog to the working face of the two opposite check-rails, as shown in the sketch. The dimension should be 15 mm. If it is not, it is probably because the frog is slightly out of alignment. This can be corrected by loosening the holding screw, and moving the frog to its correct position, where it is held while the screw is re-tightened.

Next, check the position of the frog in relation to the adjacent running rails. If it is too high or is not seating properly, this can be remedied by removing it and carefully filing away where necessary until the top and side surfaces line up exactly with the rails. Make sure the fixing screw is really tight when you replace the frog so that movement is impossible once it has been correctly set.

Now check the gauge of the closure rails. They may be slightly under gauge because of the springiness of the steel rail. If they are, very gently bend the rails with your fingers until the correct gauge is maintained when you take your fingers away. Don't worry about any discrepancy of gauge at the end of the diverging track—any that exists will disappear automatically when the next section of track is connected up.

The point can be pinned or screwed down to the baseboard through the fibre sleepers, but don't strain it. When you are fixing the point down make sure that the straight track *is* straight ! If any forcing is resorted to, the whole point may be distorted, and thus cause rough running.

Last of all-wiring ! Although the manufacturers supply a little wiring diagram, I have included the necessary information in the sketch here. As mentioned before, the frog is plastic and therefore "dead" and does not need to be switched. All that is necessary, is to bond the two left-hand rails and the two right-hand rails on the diverging tracks to achieve electrical continuity. This is not the only way of wiring a 2-rail point, of course. There are others which give automatic protection for trains approaching on the "wrong" road—but that is another story. The method shown is the most straightforward one.

These points are good value for money but, if perfect running is required, it is advisable to put in a little hand work in the manner outlined above—and there is no reason why this should not be a thoroughly enjoyable task.

Fully Detailed Blueprints

A new range of blueprints is being produced by GEORGE E. MELLOR, of Rhos-on-Sea, covering several popular types of locomotives and tenders, both old and new. The prints are to 4 mm. scale and for the most part are clear and easily read.

The most outstanding thing about them is the very comprehensive information given. Numerous scrap views, sections and half plans are included

to show all those parts which the modeller will want to include in his model, but which are wholly or partly hidden in the side, end or plan views. In the case of the L.M.S. 4,000 gallon (9 ton) tender, full details are given of the brakes and water scoop, modifications are shown for the 10-ton tender and the coal pusher fitted to this type, as well as enlarged views of the rear number plates, not to mention a list of the locomotives with which the tenders run. What more could anyone want ?

There is just one slip on the " Britannia " sheet—not in the drawing, but in the list of wheel sizes. The dimension given for 4 mm. scale tender wheels (3 ft. 3½ in. on the prototype) is 24 mm. This, of course, should be 13 mm. (3 ft. 3 in.) Unfortunately, wheels of this size are not available commercially, the nearest being 12 mm. or 14 mm. Particular modellers with lathes might toy with the idea of skimming down the larger wheels.

This series of blueprints should be very popular with modellers and I hope the range will be extended indefinitely with drawings of the same high standard.

GEM Track Price Reductions

I have been asked to add emphasis to the announcement, in our advertisement pages, of the substantial price reductions in GEM track. This has been made possible by the development of a new method of manufacturing the fibre sleepers with the tinned steel insert to which the rail is soldered. In these days of continually rising prices, it is good to find something that is " going the other way."

REX Insulated Wheels

I have received samples of the new Rex " OO " gauge coach and wagon wheels from E.R.G. (BOURNEMOUTH) LTD., and the PRITCHARD PATENT PRODUCT CO., who are joint distributors of these wheels to the trade. They feel that these wheels represent a marked advance on anything previously offered in this field and, after seeing them, I must heartily agree.

They are correct to B.R.M.S.B. dimensions with precise back-to-back measurements and the wheels have absolutely no wobble at all—my samples run very sweetly through points and crossings.

The two wheels, and that part of the " axle " between them, are moulded in black phenol plastic which gives perfect insulation and it is impossible for the wheels to become loose. A steel stub-axle is provided on each wheel giving a very free running bearing.

Last, but by no means least, the price (9d. per pair for either type) is extremely attractive and considerably below that for metal wheels which, of course, are still available for those who prefer the best and are prepared to pay for it.

Rex wheels should be available from all the usual dealers and are being manufactured for 16.5 mm. and 18 mm. gauges. I am sure they will be very popular.

James Rogerson Ltd.

In the January issue, dealing with James Rogerson's new " O " gauge wagon buffers (which, incidentally, have a 7 B.A. thread, not 8 B.A. as stated), I implied that if there was a small pip left on the buffer face when it came off the lathe, it might have been filed off for me. Rogersons tell me that this was not so and that the buffers are minus pip as turned out on the lathe. As they took considerable care to ensure that this would be so they would like me to make it quite clear. Well, I am only too pleased to do so. It gives me quite a kick to find a firm who is conscientious enough to worry about the " little " things that go to make the first-rate article, even if it means some trouble in overcoming production difficulties.

Lastly, I made a quite unexplainable slip when I stated that the side frame drawing showed an Archbar frame. In fact, the drawing showed a Bettendorf frame. The Archbar type, which is also available, is almost identical with what we call the diamond-framed bogie used on high capacity wagons and the like. My apologies to all readers, but especially those interested in American practice.

SOUTHERN RAILWAY PASSENGER STOCK

(*Continued from page* 58)

very distinctive trains which, one would have thought, would have been a great attraction to model makers. But no, the adjoining Brighton and South Western concerns seem to have many adherents whilst the unfortunate S.E. & C.R. is sadly neglected in the modelling world. Maybe the company's old nickname—the Slow, Easy and Comfortable Route has something to do with it.

One of my own railway memories is of a delightful ride on an autumn morning from Ashford to Dover in a local train composed of a three coach " birdcage " set very similar to that illustrated. It was hauled by a Wainwright Class H 0-4-4T. The weather was perfect and we trundled in and out of the tunnels and along that narrow shelf at the foot of the most famous cliffs in the world to the accompanyment of much whistling on the distinctive Wainwright engine whistle. The alternations of pitch darkness and brilliant sunshine and the smell of the smoke from Kentish coal compared with the salty tang and fresh breezes of the sea sticks firmly in my mind. My H tank was spotlessly clean albeit in S.R. colours but a similar train displaying the gleaming brasswork of the Wainwright era must have made a picture which would take a lot of beating on any British railway.

EDITOR'S MAILBAG

A Model " Talgo " Train ?

DEAR SIR,—I wonder if any model railway enthusiasts have considered a model of the Spanish " Talgo " train. This diesel-hauled train is unique in having only two wheels to each coach, the front of each coach being supported by the rear of the one ahead. (See Fig. 1.) There are no axles used at all, each wheel being independently supported in " pockets " formed in each side of the car. This means that the floor is very little above track level, and the whole train is extremely low slung. (See Fig. 2.) The coaches are short (20-30 ft.) and are built mainly of aluminium.

I decided that a train built on this system would be very economical (say two " Talgo " cars equivalent to one normal coach), in fact, a saving of over 12s. per coach. I did not like the idea of having no axles, and as the prototype runs on 5 ft. 3 in. gauge, I designed my

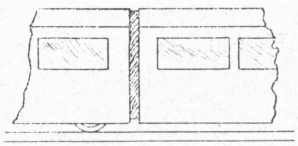


FIG. 1.

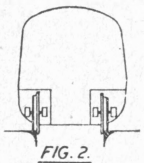


FIG. 2.

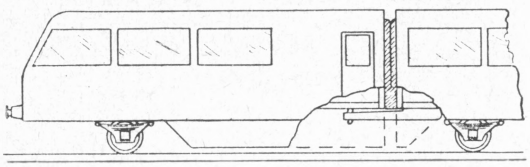


FIG. 3.

own train. It will be steam hauled and each end coach will be in the form of an observation saloon. Fig. 3 shows the general outline of the last coach, with the side cut away to show the supporting pivot. The chassis of the first four coaches have been given an exhaustive track test, being pulled and pushed at all speeds over crossovers and reverse curves, and have not derailed once, despite their lack of weight. I hope eventually to have an eight- or nine-car unit, which will be the equivalent of five bogie coaches, yet having only nine or ten pairs of wheels as against twenty.

I think that this revolutionary train offers great possibilities for anyone who wants a high speed train which can be hauled by a small locomotive, and will take sharp curves without derailment.

Yours faithfully,

Chelmsford. JOHN A. SCARLETT.

Cant at Curves

DEAR SIR,—With reference to Mr. Calvert's article in the January " M.R.N.," your readers may be interested to know that his rather startling comparison between the safe speeds on curves for full size and for " O " gauge is borne out in practice. My father operated an extensive outdoor " O " gauge layout which had at the end of the double tracked main line a reverse loop of 6 ft. radius. It had no cant whatever and trains were operated over it in perfect safety at speeds up to sixty scale miles per hour. No check rail was fitted but there was a transition curve at both ends.

Yours faithfully,

Shipley. A. SCARBOROUGH.

Components for Gauge " 1 "

DEAR SIR,—I would like to reply to Mr. Chesmore (" Talking Shop," February, M.R.N.) with regard to Gauge " 1 " components.

May I point out that news of several items in Gauge " 1 " was published in the Gauge " 1 " Model Railway Association's News Letter of October, 1951, No. 16. We *are* listening, as he remarks, and on one of my recent visits to Northampton I had the pleasure of being shown the following at Bassett-Lowke Ltd. :—Large permanent-magnet motors suitable for Gauge " 1." Crown wheels and pinions. Worm and wheel gearing. Wagon wheels on axles. Coach Mansell wheels on axles. Coach bogies with cast axleboxes and stretcher plate. Tinplate track (straight). G.N. & L.N.W. tarpaulin covers.

There will also be some news later on, of Gauge " 1 " locomotives being put on the market. We are, giving all support to any trade product in Gauge"1."

Yours faithfully,

W. G. KELLY.

Chairman, Gauge " 1 " Model Railway Association.

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For the "O" Gauge Enthusiast. The new Read-Maxwell five-pole motor. A revelation in performance. Precision-built, guaranteed for three months. As used by British Railways. Price 67s. 6d., post free. Cast-iron wheels, 11 sizes in stock. Squared location for quartered axles. The 5P5F loco kit, a well-designed kit for easy assembly. Price 30s., post free. Our leaflets describing all our activities and including our new "Sales and Wants" scheme will be mailed on receipt of 2½d. stamp.—R. G. DETTMAR & Co., The Model Railway Engineers, Ashtead, Surrey.

Staffordshire Model Shop. Est. 1936. Model railwaymen always welcome. Permanent "OO" layout. Open daily.—J. W. BAGNALL, Borough Carriage Works, South Walls Road, Stafford. Tel.: 420, M.E.T.A.

America's Famous "Model Railroader," the most authoritative magazine available, 32s. per annum. Back numbers 3s. each. Free booklet listing Model Railroader's books and other American magazines from—WILLEN LTD. (Dept. 42), 101, Fleet Street, London, E.C.4.

Yeovil, Railway Modellers are invited to call. Agents for Trix, Peco, ERG, Graham Farish.—"HINKS FOR RADIO," 36, Middle Street, Yeovil.

"OO" Scale Locomotives, two- and three-rail. All regions, £4—£15. Stamp details.—Box No. 6181, MODEL RAILWAY NEWS Offices.

Transformers for "direct" or "split potential." Rectifiers, auto cut-outs, ammeters, volt meters, reversing controllers, power units, large stocks. List s.a.e.—HARRY GILPIN, 76, High Street, Walton-on-Naze, Essex.

Pre-Grouping Coaches. "OO" card parts, all panelling embossed, N.E.R. 32' six-wheel brake van, 3s. 6d. Thirds clerestory, G.W.R. 46' 6", 4s. N.E.R. 45', 3s. 9d. Six-wheel L.S.W.R., G.N. of Scotland, 2s. 6d. per set. Post 3d.—HANSON, St. Agnes, 57, Sutherland Avenue, Fenham, Newcastle-on-Tyne.

Handyman's Shop, 27, Blakey Moor, Blackburn. Agents for Acro, Peco, ERG, Walkers, Wrenns, Hamblings, etc. Hardboard strips (all sizes) for tracklaying.

Hornby Dublo Layout. Eight locomotives, 200' track, 47 points, ten coaches, 30 wagons, accessories, 80 per cent. less than three months' old. Value over £170. Split into groups for quick sale. Offers s.a.e. to—J. BACON, 85, Mancetter Road, Nuneaton, Warwick.

Sale. Hornby-Dublo locomotives, etc. Gauge "O" oddments.—SPENCER, 158, Ellen Street, Preston, Lancs.

"OO" Gauge. 4-4-0, £4 10s.; 0-4-0 saddle tank, £3 15s. Both freelance, handmade, "X3" motors, three-rail. New, painted black, S.A.E. particulars.—Box No. 6290, MODEL RAILWAY NEWS Offices.

Exchange. 7 mm. scale "Duchess of Montrose" fine scale, all wheels sprung, unpainted, for a Varney "HO" 2-8-2 "Mikado" with Vanderbilt tender.—FISHER, Flat 4, 3, Princes Gate West, Liverpool, 8.

For Sale. Graham Farish Merchant Navy locomotive. Graham Farish transformer/controller, three Formo straight and points. £7 15s. the lot.—LOFTS, 5 Roosevelt Road, Dover.

"O" Tinplate Rolling Stock. Hornby Metro coaches, various goods, lineside equipment, etc., "OO" tinplate Bing track, lineside equipment. S.A.E. details.—SCHOLFIELD, Beauthorn House, Delamer Road, Bowdon, Cheshire.

Hornby-Dublo. Track, all lengths, full, half, quarter, eighth, electric and hand-operated points, isolating and terminal rails, electric signals, coaches, wagons, transformers, controllers. S.A.E. list.—Box No. 6297, MODEL RAILWAY NEWS Offices.

G.W.R. Portable comprehensive layout 11' 6" × 12'. Two terminal stations each with own goods yards, locomotive yards, T/T etc., and continuous run. Six locomotives, 14 coaches, 40 goods.—Box No. 6299, MODEL RAILWAY NEWS Offices.

Must Sell. Remains "O" gauge system and components. S.A.E. for details.—88, Pollards Hill North, S.W.16.

"OO" 18 mm. 2 Rail super detailed 0-6-0 L.M.S. 3F tank, 12 V as new. Four turnouts, some track, and several dozen lengths of rail, all brass. £6 or offers of Trix.—TOPHAM, 120, Main Road, Sidcup, Kent.

Hornby "OO" Coaches with pre-war type couplings wanted.—BARTON, 16, Corton Road, Lowestoft, Suffolk.

Hornby Gauge "O" Two 4-4-2 tender locomotives 6-8 V, d.c. or 10 V, a.c., £3 10s. each. 4-4-2 tank locomotive 20 V, a.c., automatic reversing, £3 15s. 0-4-0 tank locomotive, 20 V, a.c., scale wheels, motor needs attention, 10s. 20 V, a.c. transcontroller, 25s.—Below.

L.M.C. Lithographed Bogie Coaches. Three G.W.R. with corridor connections, 20s. each. Two sets of, three articulated L.N.E.R. suburban coaches, 30s. per set. Postage extra.—ELMES, Church Street, Coggeshall, Essex.

"O" Gauge. Metropolitan electric (Hornby), wagons, transformers, Rocket parts, blueprints. Wanted. **"OO"** layout, models, parts—18, Westway, Pinner, Middx.

"OO" Gauge, L.M.S. "Phoenix," "Montrose," 0-4-0 ST, Southern Electric, wagons, kits, trackwork, blueprints, baseboards, Shenphone. S.A.E. lists.—Box No. 6300, MODEL RAILWAY NEWS Offices.

"OO" Railway. Comprising 12 V Leeds, d.c. transformer-controller. Large assortment wagons and GEM two rail track. One Gaiety locomotive, cheap.—BELL, 27, Watson Street, Hartlepool.

Sale. L.M.C. Sentinel, £3. Diesel shunter, 12 V, £2 10s. Excellent condition.—BROWN, 53, Church Road, Newcastle-on-Tyne, 3.

"OO" Locomotives, rolling stock, accessories, sale cheap. S.A.E.—156, Westbury Avenue, N.22.

For Sale. Bassett-Lowke "O" gauge electric model railway. "Duke of Montrose" locomotive, dining car, brake van, double track 15' × 7' with two sidings and two parallel points.—Box No. 6306, MODEL RAILWAY NEWS Offices.

"O" Gauge Lionel Electric Train. Locomotive with whistle and smoke slightly used. All trucks and track new, unused, auto couplers, remote control. Complete with transformer and control units, £50.—FROST, 195, Northumberland Crescent, Bedfont, Middlesex.

Sale. 16.5 mm. track, outside third rail, turnouts, crossovers. Portsmouth motor coach, rolling stock. S.A.E. for details.—Box No. 6309, MODEL RAILWAY NEWS Offices.

Three Different Hornby Dublo Sets with extra lines, points, stations and lineside effects, etc.; less than three months old. Sale through lack of space.—P. NEWMAN, 52, Newquay Road, Catford, London, S.E.6.

For Sale. Large collection of Bassett-Lowke track, locomotives, coaches, trucks, etc., all purchased since the war and hardly used, at a cost of well over £70. Will accept £50.—R. WILLS, 92A, Brighton Road, Coulsdon, Surrey. Tel.: UPLands 3206. Daytime.

Trix Pacific "Scotsman" and tender, perfect condition and latest type couplings. Best offer over 8 guineas.—CHAPPELL, West Buckland, Wellington, Somerset.

One Bassett-Lowke "Enterprise" steam locomotive, Gauge "O." "Prince Charles" clockwork Gauge "O" 60′ permanent way. Variety of rolling stock. £15 or near offer.—MR. A. C. PHILLIPS, 91A, Green End, Great Brick Hill, Bletchley, Bucks.

Bassett-Lowke. Enterprise. Steam. L.M.S. Gauge "O." In new condition, perfect. Very powerful; £7 10s.—CASSELLS, 9, Clarke Avenue, Ayr.

16.5 mm. Layout, approx. 18′ 6″ × 9′ 6″, sectional baseboard, three-rail but convertible to two-rail by insulating points. High and low level, four platform terminals with goods yards. Approx. 75′ run of double track between terminals with intermediate four road through station fitted with interlocking lever frame. Now dismantled. Seen by appointment.—YOUNG, 10, Berceau Walk, Watford, Herts.

Don Bowles offers Farish Pullman coaches, 24s.; B. & K. signal kits, 2s. 4d. and 2s. 11d.; C.C.W. kits half price; "OO" locomotives, 12 V, d.c., £2 19s. 11d. (0-6-2 or 0-6-0, two- or three-rail); Zenith 12 V, d.c. motors, 17s. 6d.; Diecast "OO" bodies, 0-6-2 and 0-6-0, 7s. 6d. each; Trackmaster "OO" clockwork locomotives, 29s. 11d.; Trix sets, points and rails; Peco stocks. All new goods. Some of last month's bargains still available.—DON BOWLES, 19, Angel Hill, Tiverton, Devon.

Gauge "O" Model Railway for Sale. 150′ of steel track with points, sleepers, etc., one Bassett-Lowke L.M.S. tank engine, one Leeds shunter, six coaches, sixteen trucks, etc. All necessary controls and transformers for 230 V, a.c. Wooden trestles included. Cost over £110. What offers?—WADE, 13, Hope Street, Liverpool, 1.

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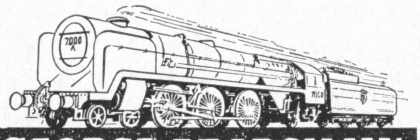

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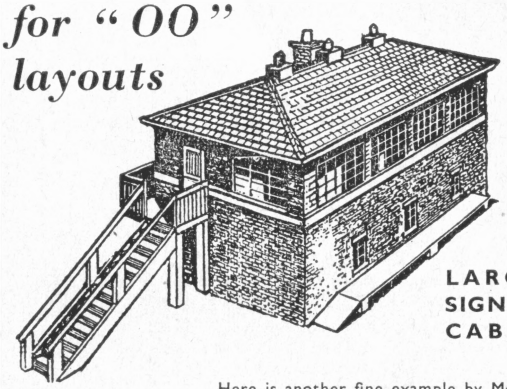

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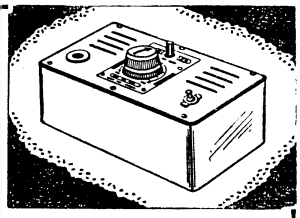

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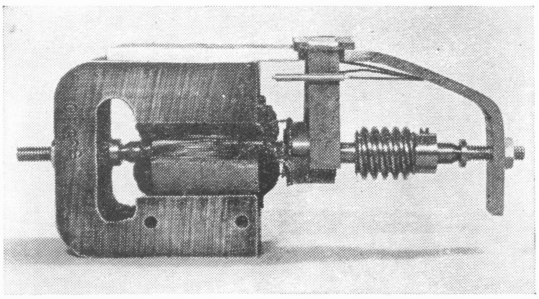

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